

AUDIOVALLEY

The Drivers for an Upgrade Are in Place

31 March 2021

BUY

 Target Price: **€7.0**

 Upside: **+91%**

Extension of the 2019 Bond Issue Maturity

With the debt to Vivendi fully repaid, the group's financial debt now consists of an €8 million convertible bond (due July 2024) and a €5 million bond that was due at the end of the year. Yesterday's announcement of the 3-year extension of this bond clearly frees up the group's horizon, allowing it to fully concentrate its resources on its growth plan. The group no longer has a repayment deadline before 2024.

Return to Dynamic Growth on Targetspot

Targetspot should return to significant growth rates from 2021. The company, which almost doubled in size between 2017 and 2019, should return to its hyper-growth trajectory, which should enable it to double in size within 2 years and thus reach a revenue of €35M in 2022. This return to growth should be visible from Q1 2021. The digital audio market is currently booming. The discovery phase is over, and advertisers are now ready to invest massively in this medium.

Disrupting the Music Rights Market

The world of copyright management is an antiquated world that is opaque and inefficient. In the age of disintermediation and digital distribution, it no longer meets artists' expectations. While European regulations have opened up this market to competition in order to improve its functioning, new entrants such as Jamendo will provide a range of services that are perfectly suited to the needs of artists. It should allow them to emerge quickly from the traditional players and thus redistribute value within a market valued at several tens of billions of euros. The gap is open and Jamendo has the expertise and legitimacy to impose itself in Europe as a credible and innovative alternative.

A Very Attractive Valuation in a Booming Market

AudioValley is a fantastic story of growth and disruption in the digital audio sector, with a leading position in two booming markets. We are reiterating our Buy rating and TP of €7. This target could be largely exceeded if we take into account the multiples of recent transactions carried out by the group's peers, including: 1/ the acquisition of Triton Digital (Targetspot's main competitor) by iHeartMedia for \$230m (for estimated revenue of \$40m/\$45m), and 2/ the \$450m fund-raising by Epidemic Sound (Jamendo's competitor) on a valuation of \$1.4bn (for 2019 revenue of less than €40m). While the digital audio market is currently attracting considerable investment, the possibility of a partner entering the capital of Targetspot and/or Jamendo - at a valuation higher than AudioValley's current capitalisation - would be likely to provide significant leverage for the stock.

Market data

Industry	Media Technology
Share price (€)	3.7
Market cap (€m)	37.8
Market Segment	Euronext Growth
Bloomberg	ALAVY FP

Shareholders

Founders/Managers	55.3%
Free float	44.4%
Treasury shares	0.3%

€m (31/12)	2019	2020e	2021e	2022e
Sales	22.0	19.5	29.4	39.5
Change (%)	29.6%	-11.3%	50.7%	34.5%
EBIT	-4.7	-4.8	-2.5	-0.3
as % of sales	-21.5%	-24.7%	-8.4%	-0.8%
Net profit	-4.7	-4.8	-2.5	-0.3
Diluted EPS (€)	0.50	-0.55	-0.31	-0.13
Change (%)	ns	ns	ns	ns
Dividend (€)	0.00	0.00	0.00	0.00
Yield (%)	0.0%	0.0%	0.0%	0.0%
FCF	-5.0	-4.5	0.5	2.7
ROCE	ns	ns	ns	ns
EV/SALES (x)		2.7	1.8	1.3
EV/EBIT (x)		ns	ns	ns
PE (x)		ns	ns	ns
Net debt	16.3	15.5	15.0	12.2
Gearing (%)	113%	117%	165%	172%

Midcap Partners estimates

Next event: 2020 results - 04/06/2021

Past recommendations

Date	Recommendation
03/30/2021	Buy

Analyst: Jean-Pierre Tabart
 Mail: jptabart@midcapp.com
 Tel: (+) 33 1 78 95 71 60

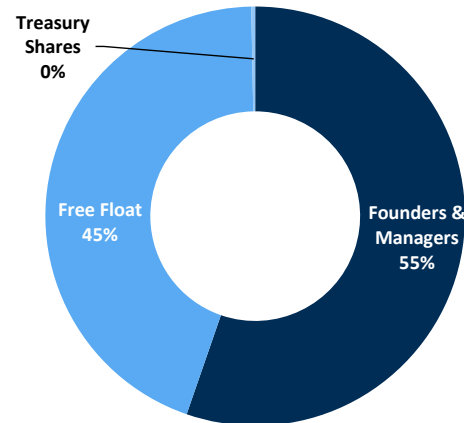


OVERVIEW of AUDIOVALLEY

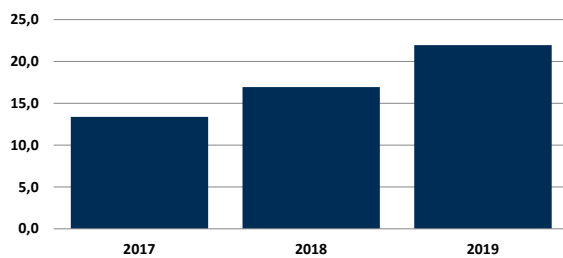
Description

Audiovalley is a pure player in the booming digital audio market, offering to content and digital audio audience holders monetization technologies. Audiovalley owns two business: Targetspot and Jamendo. Targetspot is a technological platform for aggregating and monetizing digital audio content. Targetspot's business has a strong international footprint, enabling to connect leading global and local advertisers to a global audience of over 160 million people. Jamendo is a new music rights management platform (>650 000 songs from >40 000 artists).

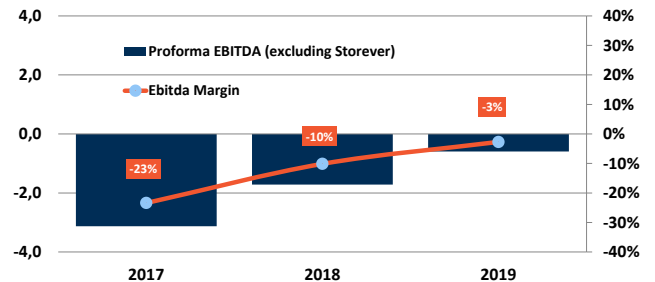
Shareholders



Revenue Growth (€M)



Ebitda (€M) and Ebitda Margin (%)



SWOT Analysis

Strengths

- A rich portfolio of proprietary technologies to serve the Digital Audio market
- An international presence with sales teams in about ten countries
- The group is positioned in a structurally buoyant market (growth in audiences and advertising spending in Digital Audio)
- High gross margin (>40%)

Weaknesses

- The still limited scope of activity impacts the group's profitability
- The cash generation still very limited
- The sensitivity of advertising revenue to economic context
- A still high level of debt, even though the group has managed to rapidly extinguish its debt to Vivendi

Opportunities

- Acceleration of the shift of advertising budgets from traditional to Digital Audio
- Opening up the copyright market to competition
- The platform model enables to anticipate strong operational leverage in the long term
- Target for a new entrant

Threats

- Arrival of new hyper-powerful entrants (GAFA)
- Arrival of new technologies and/or new uses that the group does not anticipate in order to adapt to them quickly



A Return to Growth for Targetspot

We are expecting a return to dynamic growth for Targetspot, driven by:

- **A booming market.** Advertisers are past the discovery stage – the evangelising is over, and advertisers are now mature enough to invest heavily in digital audio. The gap between audience levels and advertising investment levels in digital audio is considerable and this gap is mechanically bound to close. The advertising windfall that is still mainly used by traditional radio should be massively converted to digital audio over the next few years. To date, it is estimated that 95% of advertising budgets dedicated to audio in Europe are still invested in traditional FM radio, even though its audience is structurally declining. Given these imbalances, the dynamic growth of digital audio audiences and the growing appetite of advertisers for this medium, the digital audio market should see explosive growth figures over the next few years.
- **A competitive position of first rank which places Targetspot in an excellent position to take advantage of this enthusiasm.** The group is indeed one of the few players to have an end-to-end technological expertise (Streaming, Ad-Tech, DMP, etc.) and such a large international footprint (direct presence in the United States and Europe combined with partnerships to cover areas such as Australia or Asia). It allows it to cover all the market's needs (from national campaigns to local campaigns and programmatic campaigns) with a diversified and attractive range of inventories (digital radio, streaming platform, podcast, etc.) which should also open up to new innovative formats (such as video games or applications with a large audience to monetise). With the exception of Triton Digital and Adswizz, whose focus is primarily North American, the competition is essentially local and dispersed. Very few players have the scale and expertise to compete on a large scale with Targetspot.

Targetspot was close to doubling in size between 2017 and 2019, going from a revenue of €10.7m to €19.1m. After the 2020 hiatus, which saw Targetspot's revenue decline by -10%, we believe that the group has the capacity to return to its past growth trajectory. Targetspot should therefore be able to double in size over the next two years, reaching revenue of around €35m. Despite a still disrupted health environment, Targetspot's return to growth in Q1 2021 should be a positive signal. This is certainly one of the main markers the market is expecting in the short-term to trigger the stock's revaluation.

Beyond the return to growth in the very short-term, Targetspot is a monetisation platform that offers an extremely attractive growth trajectory for the future, with the potential to double and then triple in size over the next few years.

Jamendo, the Disrupter of the Rights Market

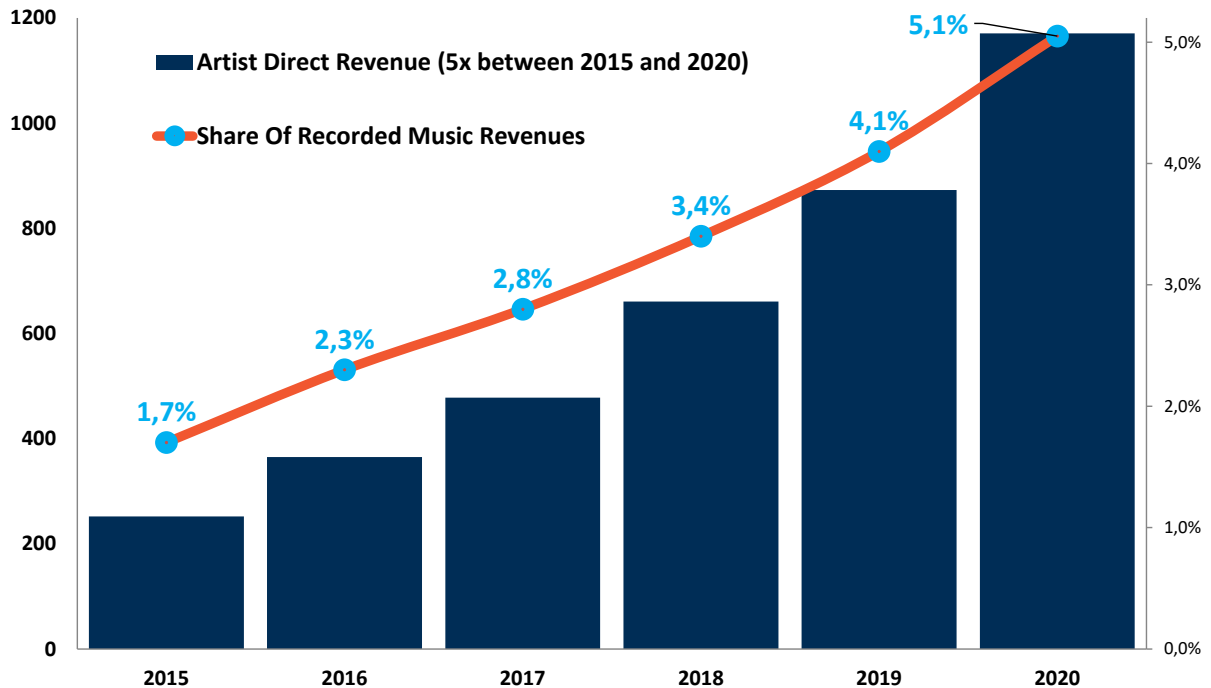
Jamendo is an interesting story of music industry disruption.

The basic problem: the value created escapes their creators. Authors and artists are the driving force behind artistic creation, but the value they create is still largely escaping them. The sharing of value within the music industry is extremely unfavourable to them. On a monthly subscription of €10 to a streaming platform, the distribution between the stakeholders is on average 30% for the streaming platform, 55%-60% for the label and 10%-15% for the collective management organisation. Concerning the 55%-60% paid to the labels, the share that goes to the artists will obviously depend on the contract between the artist and his label. There are significant differences from one artist to another, but it is considered that the average share accruing to the artists is less than 20%. Of the 10%-15% collected by the collective management organisations, 75% goes to the authors and composers. As there are usually several of them, this percentage has to be divided between them, leaving a very limited percentage for each party. For an even finer reading of the distribution of flows between the different industry players, Spotify estimates [here](#) that for every \$100 paid by a streaming platform subscriber, **the author (the one who writes/composes) will receive \$6.63 and the artist (the one who performs/plays) will receive \$7.11. In other words, those who write and play the music together receive less than 15% of the value that their work generates.**

What is changing: digital is an annuity breaker. Technological innovation and digital distribution are changing the game completely. The development of direct-to-consumer and the emergence of DIY (Do It Yourself) artists are creating a new market marked by disintermediation. Artists can now operate in the industry and reach a global audience without using traditional intermediaries. Thanks to digital technologies, they can operate independently, keeping control of their creations, which allows them to retain a much larger share of the value created. Sitting on the rent of their dominant position, the traditional players have neither the ambition, the DNA nor the know-how to meet the needs of this new market. This is a growth area that the new entrants will invest in and in which they will be able to impose themselves thanks to a value proposition that only they can provide.

The irresistible emergence of the independent artist market. The proportion of independent artists, without labels, connecting directly to streaming platforms thanks to the digital technologies offered by companies such as Tunecore (Believe), CD Baby (Downtown) or Jamendo, has been growing very strongly in recent years. It is an emerging market with very strong growth. According to MIDiA Research, the volume of revenue generated directly by independent artists will approach \$1.2bn in 2020, up 34%, following the trend of the last 5 years (CAGR of 36%). This is obviously only the beginning of the story, as the growing penetration of digital, a powerful vector of disintermediation in the music industry, should continue to grow this segment. The market share of this new generation of independent artists has now reached 5% compared to around 2% five years ago. It grew by 1 point in 2020. A point moreover gained on the market share of the 3 majors (Universal Music Group, Sony Music Entertainment and Warner Music Group). While the recorded music market continued to grow last year (+7% to \$23.1bn), driven by streaming (+20% to \$14.2bn), it is interesting to note that the majors posted contrasting performances: UMG grew at a slightly lower rate than the streaming market, with SME perfectly in line and WMG well below. Against them, independent artists were the most dynamic market segment in the industry. More details [here](#).

Global Artist Direct Revenue And Its Share Of All Recorded Music Revenue, 2015-2020



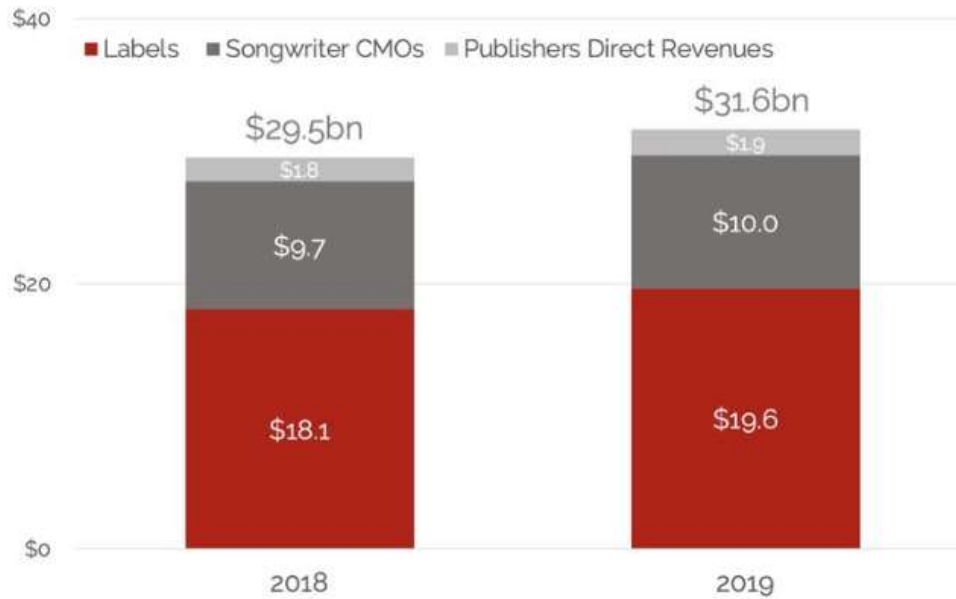
Source: MIDiA Research Music Model

Jamendo's natural legitimacy with independent artists. The group has been supporting independent artists for 10 years. During this time, Jamendo has gained their trust and built a catalogue of 650,000 tracks from 45,000 artists worldwide. The recognition Jamendo has gained among artists, the expertise it has demonstrated in managing works and remunerating artists, and the already substantial repertoire of tracks available on the platform constitute a set of tangible and intangible assets that Jamendo will be able to capitalise on to establish itself as a credible alternative in the field of rights management. To date, Jamendo, along with Unison and Soundreef, is one of only three players in Europe to have IME (Independent Management Entity) approval, which authorises commercial companies to compete with collective management organisations (such as SACEM in France) in the management of authors' rights. A breach has been opened and we are convinced that the value proposition provided by the new entrants (transparency, flexibility, quality of services, better remuneration, etc.), based on a 100% digital platform business model, will completely disrupt this market.

By attacking the rent and position of traditional players (collective management organisations, labels, etc.), a major redistribution of market value will take place to the benefit of new entrants. And the value of this market is considerable. Based on analysis of figures from the main industry sources (CISAC, IFPI, etc.), Will Page - former chief economist of Spotify and PRS for Music (equivalent to SACEM in the UK) - estimates that the global value of the rights market is over \$30bn (more details [here](#)). Figures for 2020 will probably not be available until mid-H2 2021, with CISAC (the International Confederation of Societies of Authors and Composers) releasing its figures very late (in October 2020 for the 2019 financial year), following in the footsteps of its members (SACEM publishes its annual activity report in September for example). This is a weak signal about the responsiveness and transparency of these organisations.



Global Value of Music Copyright



Source: Will Page, Tarzan Economics, March 22, 2021

Jamendo's strategy. Jamendo Rights will begin by leveraging the artists in Jamendo Licensing's repertoire. The company estimates that over 250k tracks (out of the 650k in the catalogue) could be eligible for contractual conversion to be managed by Jamendo Rights. This conversion is expected to begin in H2 2021, when the technology infrastructure is available, and the company has made progress in signing agreements with streaming platforms. From 2022 onwards, the group will seek to attract urban and electronic music artists who derive most of their revenue from digital to its service. Finally, the ramp-up will continue in 2023 with the opening of the service to traditional artists. This leaves 2 years to allow Jamendi Rights' service to grow and prove its value, and for traditional artists to exit the contractual relationships that bind them to the industry's traditional intermediaries and whose relatively long notice periods prevent them from quickly freeing themselves from their commitments. There is a serious risk that the level of litigation will increase in the coming quarters.

More and more money is going into the music market. More and more companies operating in the music industry are entering the stock market. In addition to rights holding companies (such as Hipgnosis Songs and Round Hill Music Royalty) and recurring rumours (Epidemic Sound, Kobalt Music, etc.), the arrival of SPACs (Music Acquisition, Laris Media Acquisition, etc.) and labels (UMG, Believe, etc.) illustrate a growing investor appetite for a market that has returned to growth thanks to streaming, and in which the independent artist segment is the most dynamic. Jamendo is an excellent vehicle to play this trend, with a value proposition that resonates perfectly with the needs of artists (transparency, better remuneration and faster payment times, flexibility on rights ownership, etc.).



The Significant Potential for an Upgrade

We are reiterating our rating and our DCF price target of €7 while noting that there is significant upside potential at this TP. A sum-of-the-parts valuation would point to a valuation of €14, double our TP. The transactions observed in the market reveal relatively high revenue multiples, a sign of investor appetite for the audio market and its extremely dynamic growth rates.

On Targetspot's business: Triton Digital, Targetspot's main competitor, has been acquired by iHeartMedia for \$230m. We estimate Triton Digital's revenue to be in the \$40-45M range (see our morning of 18 February for more details).

On Jamendo's business: Epidemic Sound, one of its most emblematic competitors, announced on March 11 that it had raised \$450m of a \$1.4bn valuation. Epidemic Sound's business model is based on two drivers: 1/ the granting of licenses to use royalty-free music in public places (shops, hotels, etc.) or for sound design purposes (video, advertising, etc.), 2/ the collection of royalties associated with the broadcasting of these works on digital platforms (Spotify, Youtube, etc.). Epidemic Sound has a repertoire of 32,000 songs and 60,000 sound effects. The company generated a revenue of 375m SEK in 2019 (representing €37m vs. €22m in 2018) for an operating loss of 207m SEK (amounting to -€20m).

The possible entry of a partner in one or other of the activities could, in the future, serve as a powerful catalyst for the group's revaluation. A transaction would indeed allow the crystallisation of a value on one or other of the subsidiaries that is higher than the capitalisation of the whole group today. Given the numerous movements on the market of Targetspot and Jamendo, such a transaction cannot be excluded.

SOP valuation

Assets	% owned	Revenue 2021E	EV/SALES 2021E	EV at 100%	AudioValley's share	Value per share
Targetspot	100%	27	5x	133	133	13
Jamendo	100%	3	10x	28	28	3
Total EV				161		
Net debt				15		
Total Equity Value				146		
Number of shares (m)				10		
SOP valuation per share				14		

Source: Midcap Estimates

Financial Data (1/2)

Income statement

€M	2018	2019	2020e	2021e	2022e	2023e
Net sales	16.9	22.0	19.5	29.4	39.5	49.6
Growth	26.6%	29.6%	-11.3%	50.7%	34.5%	25.5%
	% of sales	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of sales	8.9	12.2	10.8	16.2	21.7	27.2
Personnel costs	6.1	7.0	6.7	7.7	9.2	10.6
Other expenses	3.6	3.3	2.3	3.0	3.6	3.9
	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	-1.7	-0.5	-0.2	2.5	5.1	7.9
	% of sales	-9.9%	-2.5%	-1.2%	8.5%	12.8%
Amortization	0.7	1.5	1.9	2.2	2.7	3.1
"Technologies" Amortization	2.7	2.7	2.7	2.7	2.7	2.7
EBIT	-5.1	-4.8	-4.8	-2.5	-0.3	2.1
	% of sales	-30.1%	-21.7%	-24.7%	-8.4%	-0.8%
Gains on disposal	0.0	7.1	0.0	0.0	0.0	0.0
Financial result	-1.3	2.3	-1.7	-1.7	-1.7	-1.4
Income tax	0.4	-0.3	0.0	0.0	0.0	0.0
	Tax rate	ns	6%	0%	0%	0%
Net income	-5.3	4.8	-6.5	-4.1	-2.0	0.7
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0
Net income group share	-5.3	4.8	-6.5	-4.1	-2.0	0.7

Balance sheet

€M	2018	2019	2020e	2021e	2022e	2023e
Goodwill	13.8	9.2	9.2	9.2	9.2	9.2
Tangible & intangible fixed assets	28.0	25.9	23.4	21.1	18.9	16.7
Other fixed assets	1.2	1.7	1.7	1.7	1.7	1.7
Accounts receivables	6.2	7.3	6.5	9.8	13.2	16.6
Other currents assets	1.1	0.7	0.7	0.7	0.7	0.7
Cash	1.0	1.9	2.7	3.2	5.9	11.2
Assets	51.2	46.7	44.2	45.8	49.7	56.1
Shareholder's equity	10.6	14.4	13.2	9.1	7.1	7.8
Minority interests	0.5	0.0	0.0	0.0	0.0	0.0
Provisions	1.0	0.8	0.8	0.8	0.8	0.8
Financial debt	23.4	18.2	18.2	18.2	18.2	18.2
Accounts payable	12.6	11.1	10.0	15.1	20.3	25.4
Other currents liabilities	2.9	2.2	2.1	2.7	3.3	3.9
Liabilities	51.2	46.7	44.2	45.8	49.7	56.1

Cash flow statement

€M	2018	2019	2020e	2021e	2022e	2023e
Cash flow from operations	-1.7	-1.3	-3.6	-1.2	1.0	3.9
Change in WCR	-0.7	-2.1	-0.5	2.4	2.5	2.4
Operating cash flow	-2.4	-3.6	-4.1	1.1	3.5	6.2
Capex	-1.0	-1.4	-0.4	-0.6	-0.8	-1.0
FCF	-3.4	-5.0	-4.5	0.5	2.7	5.2
Disposal of fixed assets	0.1	7.7	0.0	0.0	0.0	0.0
Impact of changes of scope	0.0	0.0	0.0	0.0	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	0.0	0.0
Capital increase	7.7	0.0	5.3	0.0	0.0	0.0
Purchase/sale of shares	-0.1	0.1	0.0	0.0	0.0	0.0
Change in debt	-4.5	-1.4	0.0	0.0	0.0	0.0
Other	-0.1	-0.5	0.0	0.0	0.0	0.0
Net change in cash	-0.3	0.8	0.8	0.5	2.7	5.2

Financial Data (2/2)

KEY RATIOS

	2018	2019	2020e	2021e	2022e
Sales growth	27%	30%	-11%	51%	35%
Ebit margin	-30%	-22%	-25%	-8%	-1%
Net margin	-31%	22%	-33%	-14%	-5%
EPS	-1.0	0.5	-0.7	-0.4	-0.2
Dividend per share	0.0	0.0	0.0	0.0	0.0
Dividend Yield	0%	0%	0%	0%	0%
WCR as % of sales	-49%	-24%	-25%	-25%	-25%
DIO	ns	ns	ns	ns	ns
DSO	133	122	122	122	122
DPO	ns	ns	ns	ns	ns
FCF	-3.4	-5.0	-4.5	0.5	2.7
FCF yield	-9%	-13%	-12%	1%	7%
Conversion rate (FCF/EBITDA)	ns	ns	ns	22%	54%
CAPEX/Sales	6%	8%	2%	2%	2%
ROE	ns	ns	ns	ns	ns
ROA	ns	ns	ns	ns	ns
ROCE	ns	ns	ns	ns	ns
Gearing	201%	113%	117%	165%	172%
EV/CA			2.7x	1.8x	1.3x
EV/EBITDA			ns	21.3x	9.9x
EV/EBIT			ns	ns	ns
PE			ns	ns	ns

MIDCAP PARTNERS vs CONSENSUS

	2020e		2021e		2022e	
	Midcap Partners	Consensus	Midcap Partners	Consensus	Midcap Partners	Consensus
Sales	19.5	19.5	29.4	28.7	39.5	38.5
EBITDA	-0.2	0.3	2.5	2.0	5.1	4.6
EBIT	-4.8	-4.5	-2.5	-2.9	-0.3	-0.7
EPS	-0.5	-0.5	-0.3	-0.3	-0.1	-0.2



Disclaimer

This document may mention evaluation methods defined as follows:

1. DCF method: discounting of future cash flows generated by the company's operations. Cash flows are determined by the analyst's financial forecasts and models. The discount rate used corresponds to the weighted average cost of capital, which is defined as the weighted average cost of the company's debt and the theoretical cost of its equity as estimated by the analyst.
2. Comparable method: application of market valuation multiples or those observed in recent transactions. These multiples can be used as references and applied to the company's financial aggregates to deduce its valuation. The sample is selected by the analyst based on the characteristics of the company (size, growth, profitability, etc.). The analyst may also apply a premium/discount depending on his perception of the company's characteristics.
3. Assets and liabilities method: estimate of the value of equity capital based on revalued assets adjusted for the value of the debt.
4. Discounted dividend method: discounting of estimated future dividend flows. The discount rate used is generally the cost of capital.
5. Sum of the parts: this method consists of estimating the various activities of a company using the most appropriate valuation method for each of them, then realizing the sum of the parts.

Rating structure

- Buy: expected to outperform the market by more than 10% over a 6 - 12 months horizon
- Hold: expected performance between -10% and +10% compared to the market in a 6 - 12 months horizon
- Sell: expected to underperform the market by more than 10% over a 6 - 12 months horizon

The history of ratings and the target price for the Issuers covered in this report are available on request at marketing@midcap.com.

Conflict of Interests

Issuer	Closing price (€)	Rating	Warning
AUDIOVALLEY	3.7	Buy	G

- A. TP ICAP (Europe) or any related legal entity holds more than 5% of the total issued capital of the Issuer;
- B. The Issuer holds more than 5% of the total issued share capital of TP ICAP (Europe) or any related legal entity; B. The Issuer holds more than 5% of the total issued share capital of TP ICAP (Europe) or any related legal entity;
- C. TP ICAP (Europe), alone or together with other legal entities, is linked to the Issuer by other significant financial interests;
- D. TP ICAP (Europe) or any related legal entity is a market maker or liquidity provider with whom a liquidity agreement has been entered into in respect of the Issuer's financial instruments;
- E. TP ICAP (Europe) or any related legal entity has acted, over the last twelve months, as lead or co-lead in a public offer for financial instruments of the Issuer;
- F. TP ICAP (Europe) or any legal entity related to it is party to any other agreement with the Issuer relating to the provision of investment services in connection with the corporate activity;
- G. TP ICAP (Europe) and the Issuer have agreed to the provision by the former to the latter of a service for the production and dissemination of the investment recommendation on the said Issuer.

Rating distribution

As of 01/01/2021, the ratings issued by the Midcap research team were as follows:

Rating	Global coverage universe	of which "Corporate" Issuers *
Buy	74%	79%
Hold	20%	17%
Sell	2%	0%
Under review	1%	0%
Tender	3%	4%

* "Corporate" Issuers: Issuers to whom Midcap has provided Investment Services over the last 12 months

General Disclaimer

This report is published for information purposes only and does not constitute a solicitation or an offer to buy or sell any of the securities mentioned herein. The information contained in this report has been obtained from sources believed to be reliable, TP ICAP (Europe) makes no representation as to its accuracy or completeness. The reference prices used in this document are closing prices. All opinions expressed in this report reflect our judgement at the date of the documents and are subject to change without notice. The securities discussed in this report may not be suitable for all investors and are not intended to recommend specific securities, financial instruments or strategies to particular clients. Investors should make their own investment decisions based on their financial situation and investment objectives. The value of the income from your investment may vary due to changes in interest rates, changes in the financial and operating conditions of companies and other factors. Investors should be aware that the market price of the securities discussed in this report may be volatile. Due to the risk and volatility of the industry, the company and the market in general, at the current price of the securities, our investment rating may not correspond to the stated price target. Additional information regarding the securities mentioned in this report is available on request.

This report is not intended for distribution to or use by any entity who is a citizen or resident of, or an entity located in any locality, territory, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to or limited by law or regulation. Entities or entities in possession of this report must inform themselves about and comply with any such restrictions, including MIFID II. TP ICAP (Europe) has adopted effective administrative and organisational arrangements, including "information barriers", in order to prevent and avoid conflicts of interest with regard to investment recommendations. The remuneration of financial analysts who participate in the preparation of the recommendation is not linked to the corporate finance activity.

This publication has been approved by TP ICAP (Europe), an Investment Services Provider authorised and regulated by the Autorité de Contrôle Prudentiel et de Résolution ("ACPR"). Midcap operates as a business division of TP ICAP (Europe).





Notice to US Investors: This report was prepared, approved, published and distributed by TP ICAP (Europe), a company located outside of the United States (a "non-US Company"). This report is distributed in the U.S. by Louis Capital Markets, LLC, a U.S. registered broker dealer, which assumes responsibility for the research report's content, and is meant only for major U.S. institutional investors (as defined in Rule 15a-6 under the U.S. Securities Exchange Act of 1934 (the "Exchange Act")) pursuant to the exemption in Rule 15a-6 and any transaction effected by a U.S. customer in the securities described in this report must be effected through Louis Capital Markets, LLC rather than with or through the non-US Company. Neither the report nor any analyst who prepared or approved the report is subject to U.S. legal requirements or the Financial Industry Regulatory Authority, Inc. ("FINRA") or other regulatory requirements pertaining to research reports or research analysts. The non-US Company is not registered as a broker-dealer under the Exchange Act or is a member of the Financial Industry Regulatory Authority, Inc. or any other U.S. self-regulatory organization. The non-US Company is the employer of the research analyst(s) responsible for this research report.

The research analysts preparing this report are resident outside the United States and are not associated entities of any US regulated broker-dealer and therefore the analyst(s) is/are not subject to supervision by a US broker-dealer, and are not required to satisfy the regulatory licensing requirements of FINRA or required to otherwise comply with US rules or regulations regarding, among other things, communications with a subject company, public appearances and trading securities held by a research analyst account. Analyst Certification. Each of the analysts identified in this report certifies, with respect to the companies or securities that the individual analyses, that (1) the views expressed in this report reflect his or her entitly views about all of the subject companies and securities and such recommendations were elaborated independently; and (2) no part of his or her compensation was, is or will be directly or indirectly dependent on the specific recommendations or views expressed in this report. This material was produced solely for information purposes and for the use of the recipient. This document does not constitute an offer of, or an invitation to buy or sell any security.

The information contained herein has been obtained from published information and other sources which are considered to be reliable. The Companies noted herein accepts no liability or responsibility whatsoever for the accuracy or completeness of any such information. All estimates, expressions of opinion and other subjective judgments contained herein are made as of the date of this document. Louis Capital Markets, LLC assumes responsibility for the research reports content in regards to research distributed in the U.S. Louis Capital Markets, LLC, or its affiliates, has not managed or co-managed a public offering of securities for the subject company in the past 12 months, has not received compensation for investment banking services from the subject company in the past 12 months, does not expect to receive and does not intend to seek compensation for investment banking services from the subject company in the next 3 months. Louis Capital Markets, LLC, or its affiliates, do not beneficially own 1% or more of the subject securities and there are not any other actual, material conflicts of interest noted at the time of the publication of this research report. As of the publication of this report, Louis Capital Markets, LLC does not make a market in the subject securities. The non-US Company will refrain from initiating follow-up contacts with any recipient of this research report that does not qualify as a Major Institutional Investor, or seek to otherwise induce or attempt to induce the purchase or sale of any security addressed in this research report by such recipient.

