# Rovio

## Extensive report

**09/06/2022**

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This report is a summary translation of the report "Pelialan arvo-osake" published on 09/06/2022 at 7:30 am.

# Value stock of the gaming industry

We reiterate our EUR 7.5 target price for Rovio and raise our recommendation to Buy (prev. Accumulate). With the stable earnings we forecast for the coming years, Rovio's share valuation already looks very low, and we see room for upside. However, a significant upward correction in valuation requires a stronger earnings growth outlook, which Rovio also has the potential to achieve with the games under development, the further development of AB Journey and through acquisitions enabled by strong balance sheet. The strong cash flows of Rovio's current game portfolio give the company plenty of time to create new successful games. At the same time, the growth expectations loaded on the stock are moderate, which limits the downside in a scenario where the next game releases don't take off. Thus, at current levels, we consider the stock's risk/return ratio attractive, although in the short term, challenging market conditions may create headwinds for the flight path of Angry Birds.

### A stable gaming company with new growth opportunities under its wings

Under the leadership of CEO Alex Pelletier-Normand, who started at the beginning of 2021, Rovio has clearly shifted towards a more growth-oriented direction, which has already been reflected in recent revenue growth (2021-2022e: 5-12%). With acquisitions and the establishment of new game studios, the company is developing several growth opportunities under its wings that could significantly accelerate Rovio's growth in the medium term, if they are successful. From an investor's perspective, the challenge is to assess Rovio's balancing act between growth and profitability. Scaling up new growth games tends to weigh on Rovio's profitability in the short term. Ultimately, the growth of successful games is also reflected in the bottom line as they reach a mature stage in their life cycle. This dynamic is also reflected in Rovio's financial targets, where the company aims for adjusted EBITDA to grow in line with revenue growth.

### Rovio's portfolio of casual games is well suited to the current challenging market environment

The mobile games market, which has already grown to over USD 100 billion in size, has taken a breather this year. For example, the US market that is important to Rovio fell by almost 10% in H1. In addition to the normalization of the demand spike following the COVID pandemic, the weak performance is due to the challenges to targeted user acquisition posed by Apple's IDFA change and the generally weaker economic environment. Rovio's portfolio, which focuses on casual games, is well suited to the current market situation, with a very broad potential player base. In addition, the strong brand awareness of Angry Birds generates a lot of organic downloads for the games in the app stores. We also believe that the challenges in the market are temporary and that the games sector will continue to grow in the slightly longer term.

### No miracles required with the low valuation

We estimate Rovio's earnings level to remain practically stable in the coming years and EBIT to be in the range of around EUR 41-43 million. With our forecast for the current year, this means an EV/EBIT multiple of 7x, and with strong cash flow, the corresponding multiples will fall to 6x-5x in 2023-2024. The multiples are low in absolute terms, and we see upside potential in them. In our view, the low valuation also limits the downside potential of the stock in the current turbulent market environment. At the same time, in a good scenario, if one of the growth options under Rovio's wing were to materialize, there would be clear upside to the stock as the growth outlook strengthens. The next potential growth title is Ruby Games' Hunter Assassin 2, which is in soft launch and could be released later this year.

## Recommendation

**Buy**
(previous Accumulate)

**7.50 EUR**
(previous EUR 7.50)

**Share price:**
5.64


## Key figures

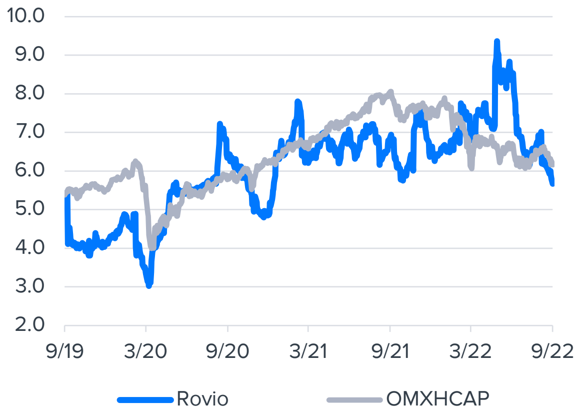
| | 2021 | 2022e | 2023e | 2024e |
|---|---|---|---|---|
| **Revenue** | 286.2 | 319.9 | 328.2 | 346.4 |
| **growth-%** | 5% | 12% | 3% | 6% |
| **EBIT adj.** | 43.7 | 41.0 | 42.2 | 43.4 |
| **EBIT-% adj.** | 15.3 % | 12.8 % | 12.9 % | 12.5 % |
| **Net Income** | 30.1 | 30.5 | 32.9 | 33.8 |
| **EPS (adj.)** | 0.47 | 0.44 | 0.43 | 0.44 |
| | | | | |
| **P/E (adj.)** | 14.0 | 12.7 | 13.1 | 12.8 |
| **P/B** | 2.5 | 2.0 | 1.8 | 1.6 |
| **Dividend yield-%** | 1.8 % | 2.1 % | 2.1 % | 2.1 % |
| **EV/EBIT (adj.)** | 7.7 | 6.9 | 6.1 | 5.4 |
| **EV/EBITDA** | 6.6 | 5.5 | 5.0 | 4.4 |
| **EV/S** | 1.2 | 0.9 | 0.8 | 0.7 |

Source: Inderes

## Guidance (Unchanged)

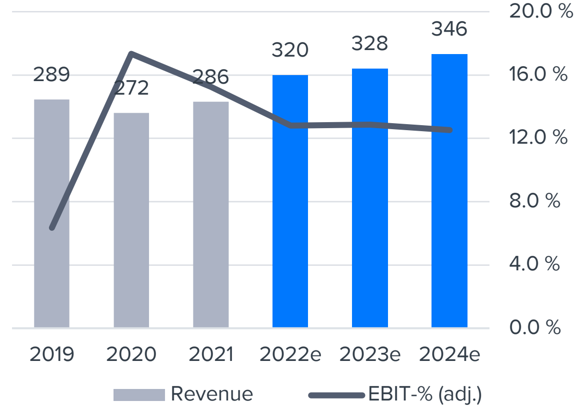
"Rovio expects its revenue to grow strongly this year and its adjusted EBIT to be lower than last year."

## Share price




Source: Millistream Market Data AB

## Revenue and EBIT %




Source: Inderes

## EPS and dividend


Source: Inderes

## Value drivers

- Growth through new game releases
- Diversification of the game portfolio with new game brands
- Accelerating growth and diversifying the portfolio through acquisitions
- Strong balance sheet and good cash flow enable investment for growth
- Opportunity for a new global hit game

## Risk factors

- Faster-than-expected decline in popularity of current top games
- Delays with future game projects or failing to create new successful games
- Easing of the demand spike brought on by the COVID pandemic and weakening economic environment
- Challenges of Apple's IDFA change for user acquisition
- Decline in popularity of the Angry Birds brand
- Rapidly changing market trends, intensifying competition and increased user acquisition costs
- Failure in acquisitions

| Valuation | 2022e | 2023e | 2024e |
|---|---|---|---|
| Share price | 5.64 | 5.64 | 5.64 |
| Number of shares, millions | 76.3 | 76.6 | 76.8 |
| Market cap | 430 | 432 | 433 |
| EV | 282 | 259 | 236 |
| P/E (adj.) | 12.7 | 13.1 | 12.8 |
| P/E | 14.1 | 13.1 | 12.8 |
| P/FCF | >100 | 13.0 | 12.7 |
| P/B | 2.0 | 1.8 | 1.6 |
| P/S | 1.3 | 1.3 | 1.2 |
| EV/Sales | 0.9 | 0.8 | 0.7 |
| EV/EBITDA | 5.5 | 5.0 | 4.4 |
| EV/EBIT (adj.) | 6.9 | 6.1 | 5.4 |
| Payout ratio (%) | 30.0 % | 28.0 % | 27.3 % |
| Dividend yield-% | 2.1 % | 2.1 % | 2.1 % |

Source: Inderes

# Contents

# Rovio Entertainment in brief

Rovio is a games company focused on mobile games. The company also licenses the Angry Birds brand for consumer products, films, animation and other entertainment.

**2003**
Year of establishment

**2017**
IPO

**286.2 MEUR** (+5% vs. 2020)
Revenue 2021

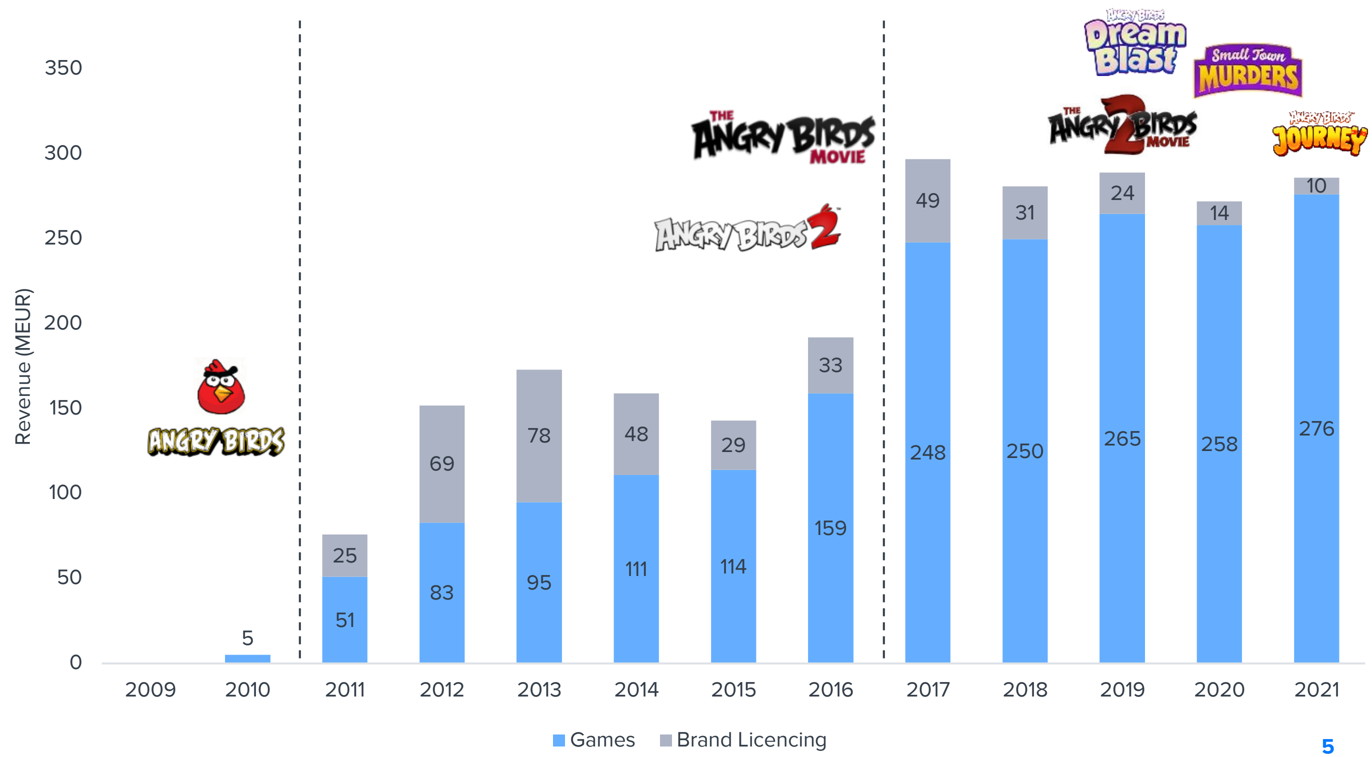
**2.7%** 2018-2021
Average growth of games revenue

**EUR 43.7 million** (15.3% of revenue)
EBIT (adj.) 2021

**510**
Personnel at the end of Q2'22

**97% / 3%**
Games / Brand Licensing share of revenue 2021

| 'Games only' | Building an entertainment company | Structural change and film | 'Games first' | |
|---|---|---|---|---|
| | Change to free-to-play model | | | |
| • Angry Birds Classic released 12/2009 | • Major investment in the first Angry Birds movie | • Successful release of the AB film<br>• Restructuring to focus on games | • Success of AB2 game supports growth<br>• Success of the second AB film misses expectations | • PlayRaven, Darkfire Games and Ruby Games acquisitions<br>• After strategy and RPG game experiments, focus on casual games |




Source: Rovio / Inderes

# Company description

### Mobile games company known for Angry Birds

Rovio is a mobile games company known worldwide for its Angry Birds brand. Angry Birds originated as a mobile game in 2009 and has since expanded from games to various entertainment and consumer product categories through brand licensing.

Rovio's revenue in 2021 was EUR 286 million and adjusted EBIT was EUR 43.7 million (EBIT-%: 15%). The majority of the company's revenue (97%) came from the games business and the remaining 3% from Brand Licensing. Games also generate most of the group's operating profit. Geographically, Rovio's business is focused on the Western market. 67% of revenue comes from North America and 21% from EMEA. At the end of Q2'22, Rovio employed 510 people, most of whom work in the games business.

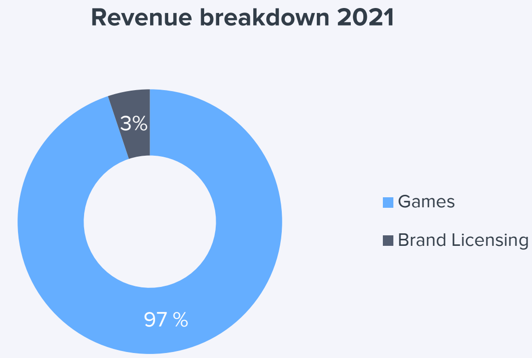
### Rovio's history in brief

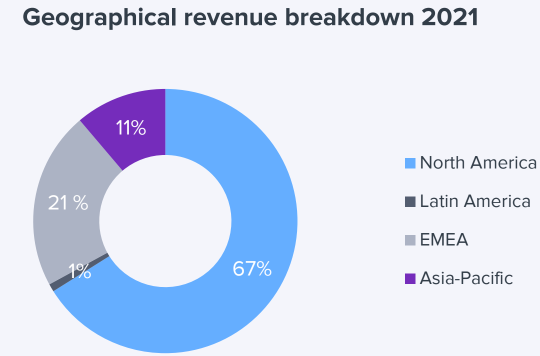
Rovio was founded in 2003, but the company's current story really begins in 2009, when the first Angry Birds mobile game was released. In the years that followed, the game's popularity exploded, and Angry Birds became a global phenomenon and a pioneer of mobile gaming. By May 2012, downloads of the game had passed the one billion mark. At that time, the mobile games market was still at a very early stage and the business model for mobile games was based on consumers buying a game for themselves for a small one-off payment. Thus, despite its huge popularity, the first Angry Birds game's revenue was small compared to what the game could have achieved in the era of free-to-play (F2P) and today's much more mature and larger market. To this day, Rovio's current Angry Birds games still have millions of daily players and the company's core expertise is built around slingshot and puzzle games.

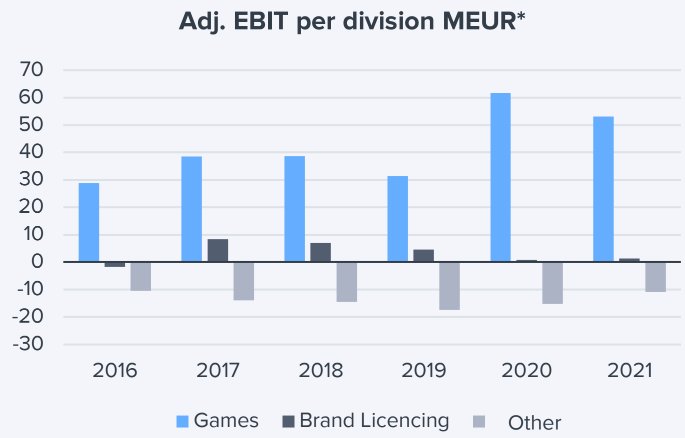
In the midst of the Angry Birds frenzy, Rovio saw that Angry Birds had the potential to become an "evergreen" brand and began investing heavily in its licensing in 2011. Rovio started to build towards becoming an entertainment company, and between 2013 and 2016 the company made significant investments in the production of the first Angry Birds movie. The risky investment paid off and the film was the top-grossing movie in 50 countries during its opening weekend in May 2016.

However, with the first movie, Rovio realized the risk of film production and made the decision to focus primarily on mobile games. As a result of the restructuring, Rovio's headcount almost halved from over 900 in 2014 by the end of 2016. In hindsight, it was a very good decision, as the box office performance of the second Angry Birds movie (2019) was well below expectations. However, the financial hit was borne by Sony, to whom Rovio had licensed the production of the film. Since 2017, Rovio has focused primarily on games and brand licensing is more of a marketing tool to support the games business.

Rovio sought to expand its games business into role-playing and strategy games with the acquisitions of Playraven (2018) and Darkfire Games (2020). However, with the market shift that occurred by 2021 at the latest, the company decided to focus primarily on casual mobile games. In 2021, the company also expanded its portfolio to hyper-casual games with the purchase of Ruby Games.




Source: Rovio, Inderes, *Rovio changed its reporting at the beginning of 2022 and only reports its results at group level

## Partners

Distribution platforms

3rd party tools and services

Brand licensing partners

## Operations

Development, publishing and maintenance of games

Marketing and user acquisition

Angry Birds brand licensing

## Resources

Wide game portfolio and proprietary technology platform

Angry Birds brand awareness

7 game studios

## Business idea

**Rovio develops mobile games on a free-to-play model and licenses the Angry Birds brand for consumer products, films, animation and other entertainment.**

- Strong competence in puzzle and slingshot games
- Angry Birds brand awareness helps with user acquisition
- Very strong balance sheet enables growth investments and acquisitions
- Proprietary technology platform brings scalability to growth, game development and acquisitions

## Distribution channels

App Store

Google Play

## Players

- Casual mobile gamblers
- Adult players as the main target group
- Focus on Western markets

## Game portfolio

| | |
|---|---|
| **Growth**<br>6 % of gross bookings Q2'22 | • Angry Birds Journey<br>• + games on the test market |
| **Earn**<br>79 % of gross bookings | • Angry Birds 2<br>• Angry Birds Dream Blast<br>• Angry Birds Match<br>• Angry Birds Friends<br>• Small Town Murders |
| **Catalog**<br>5 % of gross bookings | • Mostly old Angry Birds games |
| **Hyper-casual**<br>6% of gross bookings | • Titles from Ruby Games |
| **Development pipeline**<br>2 games have had a soft launch<br>Several games in the development pipeline | • Moomin: Puzzle & Design<br>• Hunter Assassin 2 |

## Cost structure (2021)

**510 employees (Q2'22)**

Materials and services *(26% of revenue)*

Personnel costs *(19%)*

User acquisition *(27%)*

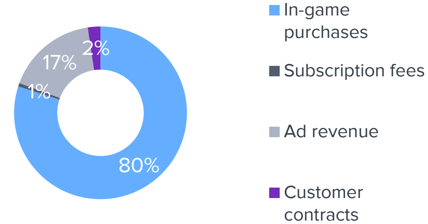
Other expenses *(11%)*

Depreciation *(5%)*

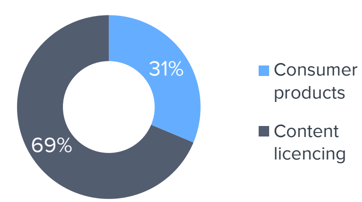
## Income flows (2021)

**Revenue 286 MEUR**
**Adj. EBIT 43.7 MEUR (2021)**

**Games business***
*(97 % of revenue)*




**Brand licensing**
*(3 % of revenue)*




Source: Inderes, *revenue breakdown Q2'22

# Games business 1/5

## Mobile games as a service

Rovio creates and develops mobile games on a free-to-play (F2P) model. The games are based on the company's Angry Birds brand, as well as other own game brands. The company publishes finished games on digital platforms (App Store, Google Play). Platforms charge a distribution fee of 30% of the revenue generated by in-game purchases.

Rovio currently has seven game studios, of which the studios focusing on puzzle games and casual strategy games are located in Espoo. Among the overseas studios, there are studios specializing in casual games in Stockholm and Toronto, a casual RPG studio in Copenhagen and a studio exploring the future of gaming in Montreal. In addition, in 2021 Rovio acquired Ruby Games, a Turkish company specializing in hyper-casual games. Games teams are supported by common functions such as marketing and user acquisition, analytics, technology, finance and business development.

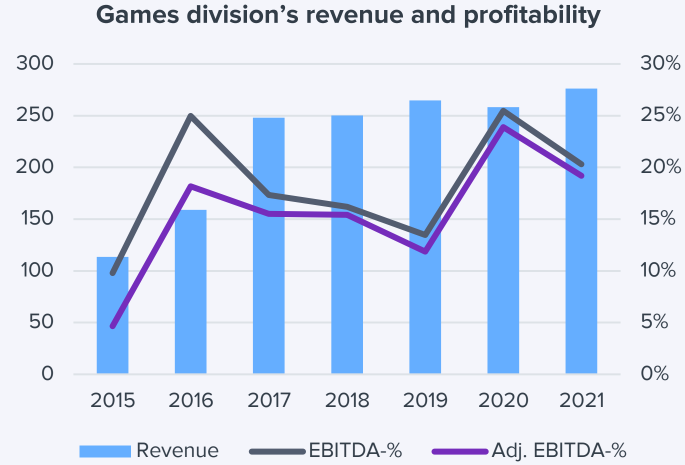
Rovio's games are based on the GaaS-model, which aims to develop games as a long-term service. After release, updates and additional content will be added to the game with the aim of keeping players engaged for a long time. At the heart of the model is building game content for players through continuous development for many years to come. Thus, the revenue generated from the games is also longer-term and more continuous.

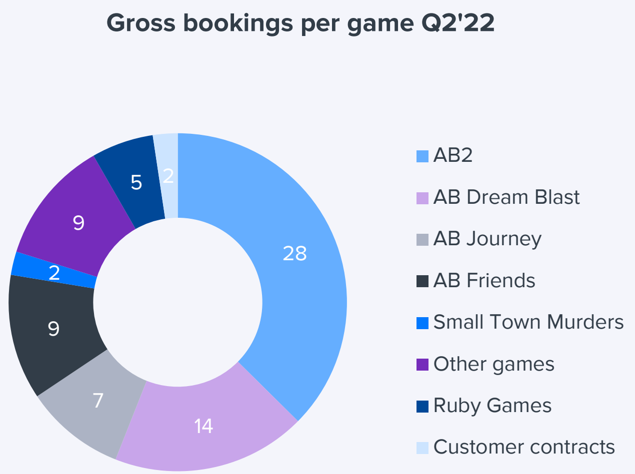
In the F2P business model for mobile games, earnings are generally based on in-game purchases made by players. In-game purchases can be virtual currency or virtual items, for example, to enhance the player's in-game experience. In addition to these purchases, players can also view in-game ads to gain a variety of advantages in the game. It's typical of the F2P model that a relatively small proportion of all players who download a game end up converting into paying customers. The success of mobile games companies is largely determined by how well they manage to attract and retain high spending players. In-game purchases account for the majority of Rovio's games revenue (Q2'22: 80%). The remainder comes mainly from in-game advertising (17%) and customer contracts (2%), which include, e.g., Rovio's games on Apple Arcade.

## AB games account for most of the gross bookings

After a growth spurt in 2017 (56%), Rovio's games revenue has grown steadily (18-21 CAGR: 2.7%), reaching EUR 276 million in 2021. Growth in 2017 was driven by a significant increase in the popularity of Angry Birds 2 (AB2) due to successful content updates. AB2 is still by far Rovio's biggest game and overall AB games still account for most of gross bookings. In 2021-2022e, growth in the games business (7-12%) is boosted by the acquisition of Ruby Games and the launch of AB Journey. Rovio's strategy also aims to diversify its game portfolio with new game brands, which will be developed in-house and possibly brought in through acquisitions in the future.

Profitability of the Games segment (2017-2021 adj. EBIT-%: 12-24%) has varied widely depending on the level of user acquisition investments on the games. For the next few years, Rovio's profitability will be supported by several large games in the earn phase with strong cash flow.




Source: Rovio, Inderes

# Games business 2/5

Rovio commented on its May 2022 Capital Markets Day that between Q1'19-Q1'22 AB2 has made profit with an average EBIT margin of around 49%. AB Friends has averaged an EBIT margin of 64% over the same period, as the game generates its revenue entirely from organic downloads, with no paid user acquisition. AB Dream Blast has also achieved an average profitability of just over 30% in recent years after its release year (2019). In the calculation of game-specific EBIT, the biggest cost items apart from user acquisition are the personnel costs of the game team, but it doesn't include an allocation of, e.g., corporate costs.

### Game development life cycle of Rovio games

Since 2011, Rovio has invested significantly in its proprietary Beacon technology platform, which the company uses to operate all its games. A unified platform brings scalability to game development and live operations, as data and lessons learned from previous games can be applied to new games.

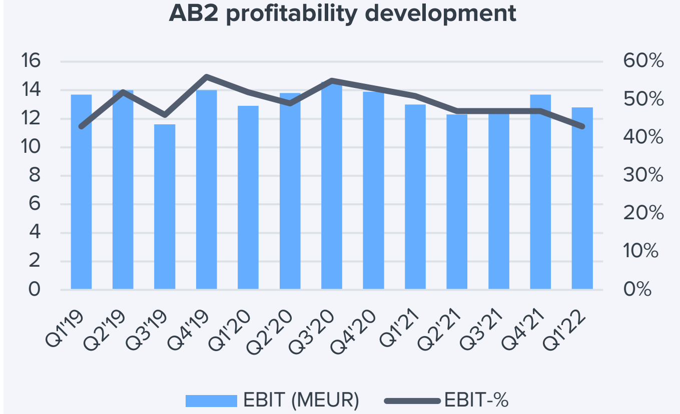
Game development starts with the conceptualization phase, where a small team of developers come up with ideas for new games. Potential concepts are exported to pre-production, where more resources and a larger budget are allocated to the game team. The pre-production phase typically lasts 2-6 months, during which time the game is prototyped and tested for feasibility.

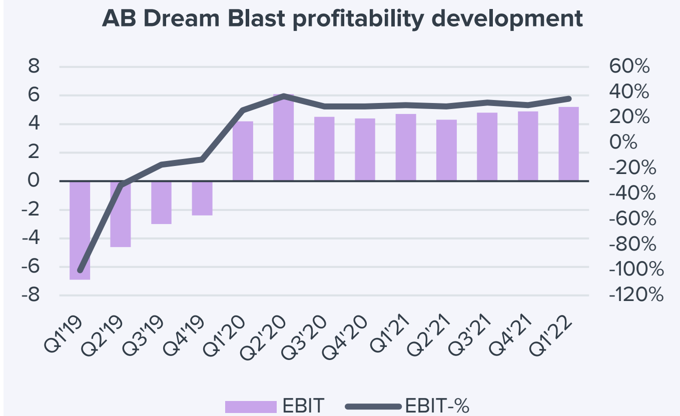
Projects that develop as expected and appear to be in demand in the market will then go into production. The production phase is where the actual game development takes place. This phase usually takes 2-6 months and employs a team of around 10-25 people, depending on the size of the project.

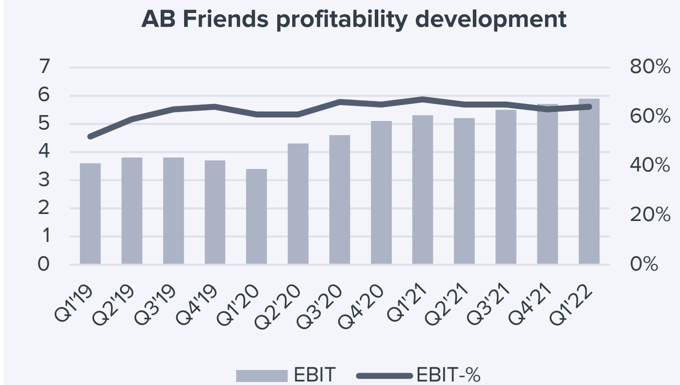
Before its global release, the game will be made available for play in a few test markets though a soft launch. This involves optimizing the game's monetization mechanisms, fixing bugs found in the game and further developing the game bafsed on player feedback. The soft launch phase typically lasts a few months, but sometimes considerably longer (>12 months). Rovio has divided the test marketing into three phases: technical testing, player retention optimization and monetization. Once these stages have been passed, the game proceeds to the actual launch if its key figures support it.

At the time of launch, a large team is still involved in game development, but the duration of the phase depends on project-specific plans. The launch of a game typically involves significant marketing investments to raise awareness of the game and attract players, which puts a front-loaded burden on profitability.

Post-launch game maintenance and development is an ongoing activity and involves a large to medium sized team (10-35 people). Rovio constantly monitors the success of its games and increases or decreases resources based on their popularity and estimated success potential.



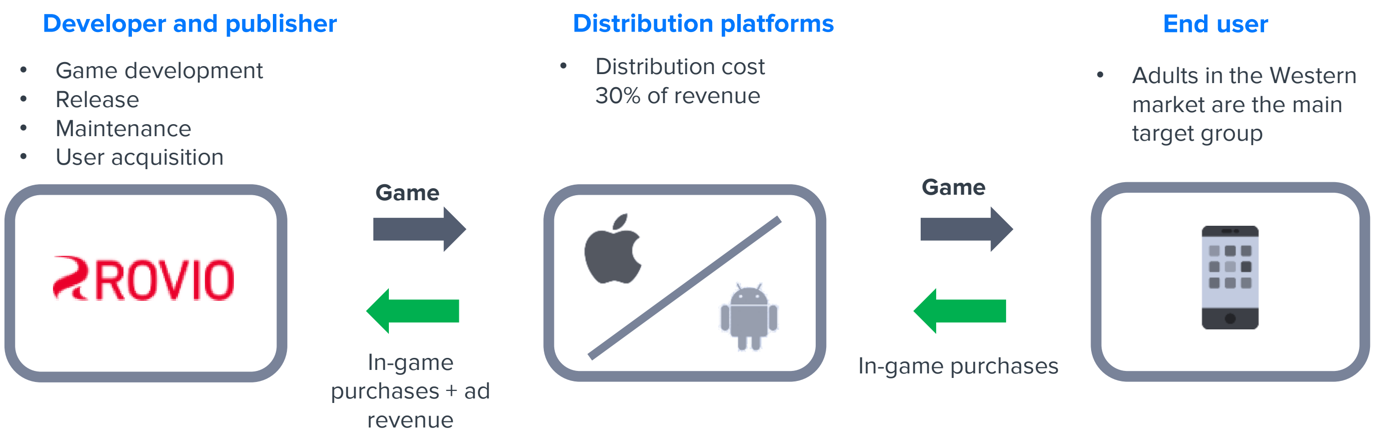



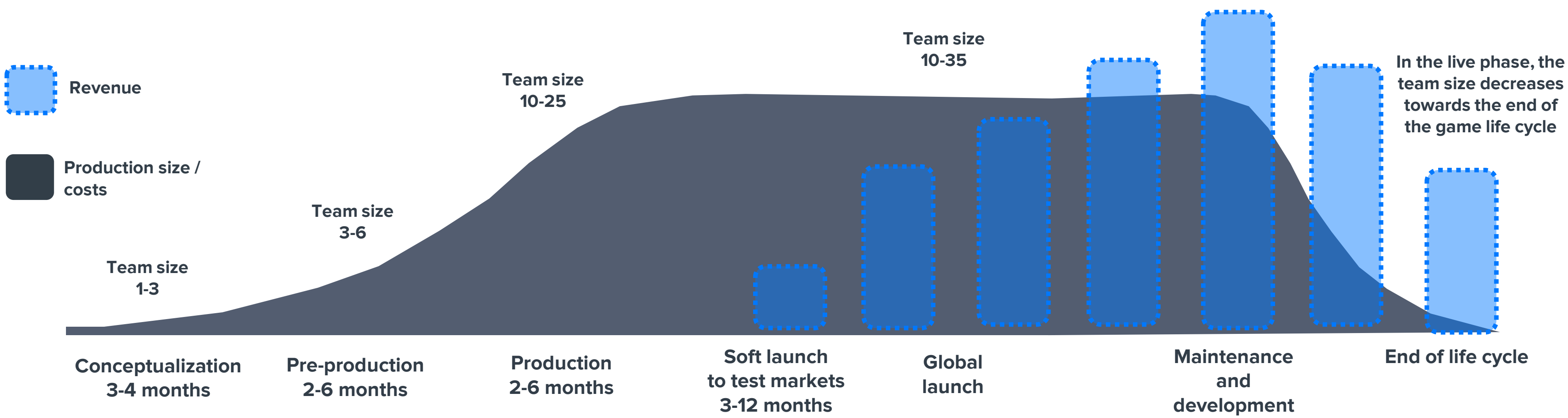

Source: Rovio, Inderes, *NB! EBIT per game includes the team's personnel costs and user acquisition, but excludes e.g. allocation of corporate costs

# Rovio's games business value chain and development process

## Rovio's games business value chain




## An illustration of the mobile game development life cycle at Rovio




Source: Inderes, Rovio

# Games business 3/5

### Mobile game life cycles

The life cycles of mobile games vary widely depending on the quality of the games. For several years now, the market trend has been to keep already released games alive for as long as possible, rather than maximizing new game releases, reflecting the growth of the mobile games market into a mature phase. In fact, the list of the most lucrative mobile games includes several games that are well over 5 years old. For example, Rovio's biggest game AB2 was released in 2015. Rovio classifies its games by life cycle as follows:

**Grow:** These games are being grown to generate revenue in the future. Due to the large development team and significant user acquisition investments in the Grow phase, profitability of the game is low or negative at this stage.

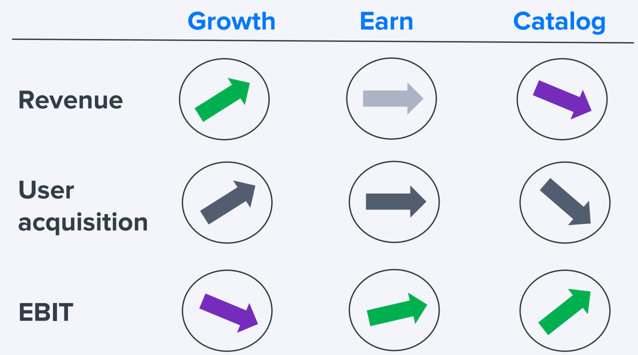
**Earn:** These games are already profitable and may have further potential for growth. New content is being developed for games and user acquisition investments can be significant, but their relative share of revenue is lower than for growth games. At this stage, the game's profitability is moderate or high.

**Catalog:** These games are not actively developed; game teams are small and user acquisition has largely ceased. Revenue is falling, but profitability is very high.

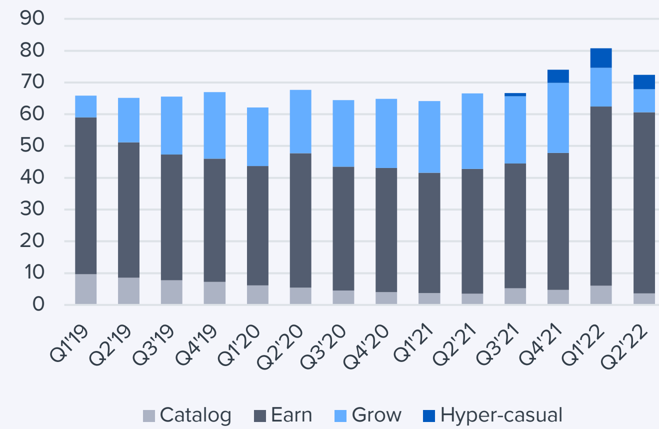
**Hyper-casual games:** This category includes titles from Ruby Games. In hyper-casual games, development cycles are very fast, and it often takes only weeks or months from idea to release. The aim is for very simple games to quickly reach large audiences through effective user acquisition. The target user acquisition payback period is often only around 7-30 days, indicating that games in this genre generate most of the revenue in the few months following release. In hyper-casual games, revenue is mainly generated through in-game advertisements. Due to the rapid development cycle and the typically short life cycle of games, fluctuations in Ruby Games' revenue between quarters can be large.

Ruby Games is also developing hybrid-casual games, the closest of which is Hunter Assassin 2, the sequel to the company's previous hit game. The game will have a deeper metagame than the original game and a multiplayer mode, which will also allow monetization through in-game purchases instead of just ads. Particularly in this respect, Rovio has been able to offer Ruby its own strong expertise in casual games.

**Growth and profitability profile of Rovio's games by life cycle**



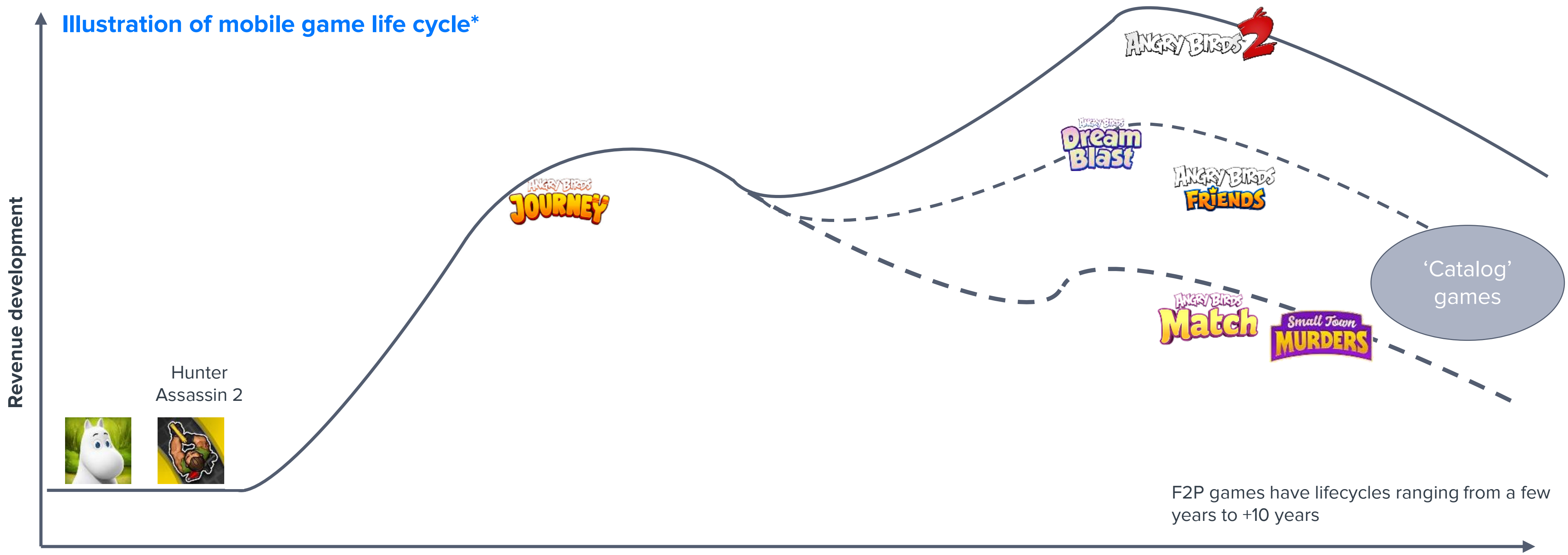

**Rovio games' gross bookings over the life cycle (MEUR)**




Source: Rovio, Inderes, *AB Dream Blast moved from Grow to Earn category in Q1'22 and Small Town Murders in Q2'22

# Mobile game lifecycle in the F2P business model

Development → Release → Continuous game development → Growth → Profitability → End of the life cycle




**Development**
- Game development costs
- Technical testing
- Soft launch to test markets
- Do the figures support the release?

**Release**
- Large marketing efforts at the start or gradual scaling of the game
- Growing DAU and MAU
- Revenue growing fast
- Profitability negative or low

**Continuous game development**
- Game is developed based on player data
- Player base stabilizes (DAU and MAU drop from top)
- LTV vs. CPI - if the lifetime value of a player is high, the aim is to further increase the player population

**Growth**
- Depending on the KPIs of the game, marketing is either increased or decreased
- New content is introduced into the game
- If the game is not successful, live maintenance can be stopped

**Profitability**
- User acquisition is used to maintain or even increase the number of players
- User acquisition efforts smaller than in the Grow phase
- High-quality games reach excellent profitability at this stage
- The aim is to keep the games in the Earn phase for years, as most of the value creation takes place here

**End of the life cycle**
- Marketing efforts discontinued/minimized
- Revenue turned into a downward trend
- Profitability at a very good level

Source: Inderes, * Inderes' views on the life cycle of Rovio games

# Games business 4/5

## User acquisition

Maintaining and growing the player base is a key part of Rovio's business. The number of players at any given moment determines the maximum number of potential in-game shoppers. Rovio's organic user acquisition is supported by the Angry Birds brand awareness, cross-promotion of games enabled by a large game portfolio, and visibility in app stores through Apple and Google.

In paid user acquisition, Rovio applies a precise data-centric and machine learning-based approach to optimize its marketing efforts across digital marketing channels.

In general, mobile game companies model and track the lifetime value (LTV) of a player for each game, i.e., how much revenue an individual player generates on average over their lifetime. Lifetime values vary from game to game and the lifetime value of players in a single game can change if new attractive content or features can be developed. Lifetime value can also decrease if for some reason the game becomes less interesting among players. The lifetime value is therefore affected by the retention of players in the game and their willingness to pay.

For paid user acquisition to be worthwhile, the lifetime value of a player must be greater than the cost of acquiring a single player (CPI). The unit cost of user acquisition is influenced by the prices of digital marketing channels and the effectiveness of the company's own marketing activities.

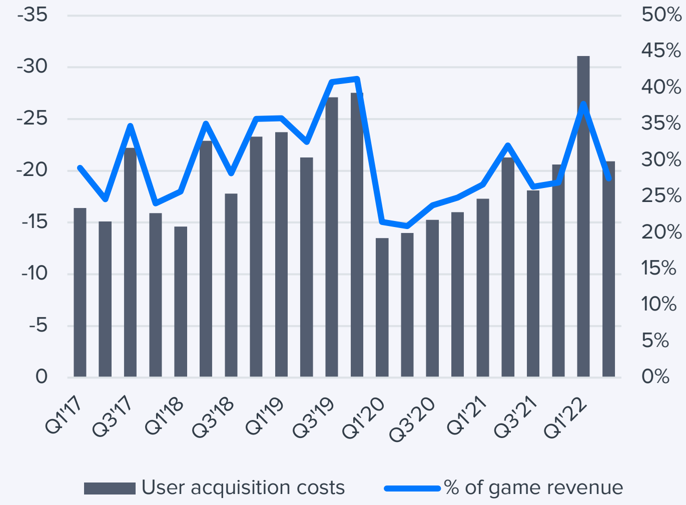
User acquisition is a significant expense for all mobile games companies and typically accounts for several tens of percent of their revenues.

In general, the user acquisition payback period is expected to be between 3-12 months. However, the payback period can vary considerably depending on the type of game and its monetization profile. Rovio is aiming for a 12-month payback period for its games.

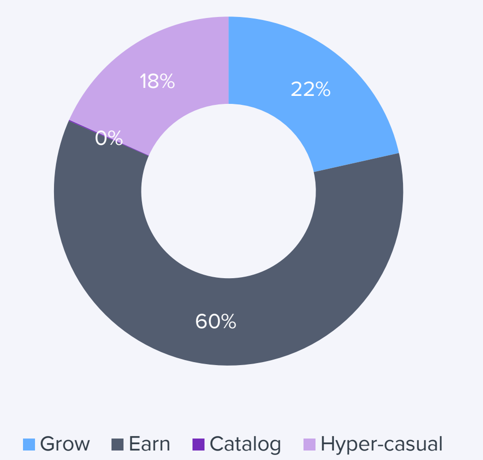
In recent years, Rovio's user acquisition costs as a percentage of its games business revenue have fluctuated between 21% and 41% between quarters. In 2019, Rovio aggressively increased user acquisition for its top games with the aim of strengthening growth in combination with the visibility generated by Angry Birds 2 movie. In hindsight, the company clearly over-invested and the 12-month payback period has not been fully realized for all these investments. In 2020, Rovio was able to keep its revenue almost stable with significantly lower user acquisition. In 2021, Rovio started to increase user acquisition again, reflecting new game releases, and the release of AB Journey is visible as a strong spike in Q1'22 figures. We expect Rovio to continue to seek to optimize the cash flow of existing mature top-tier games and to focus most of its user acquisition investments on new games.

Rovio estimates that the long-term sustainable level of user acquisition to maintain growth is around 30% of the games business revenue. In the short term, the relative share of costs is materially affected by the maturity of the life cycle of the game portfolio.

**Quarterly user acquisition investments (MEUR)**



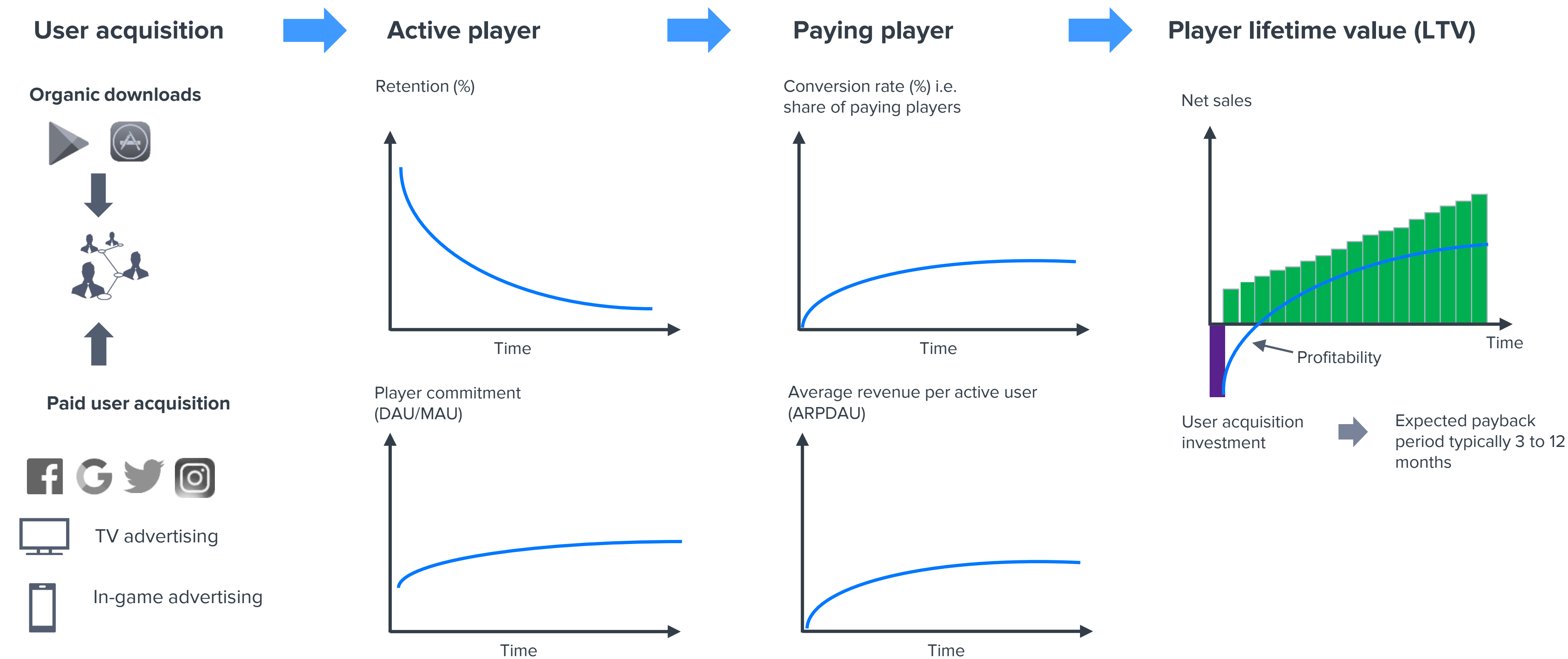

**Breakdown of user acquisition investments Q2'22**




Source: Rovio, Inderes

# User acquisition in the F2P business model

## Illustration of key figure development of players who downloaded the game at time X




Forecast model of a player's lifetime value guides user acquisition investments.

User acquisition invesments worth it when LTV > CPI.
(Lifetime value > cost per install)

Development of key indicators is influenced by, e.g.,

- Quality of the game
- Constantly developing the game with new content
- Monetization mechanisms
- Social elements of the game
- Successful user acquisition

If user acquisition investment is successful, return on capital can be excellent.

There is always a risk associated with user acquisition if the LTV is lower than the initial assumption or the CPI rises too high. This can result in a poor or even negative return on investment.

Source: Inderes, Stillfront Group

# Games business 5/5

## Player engagement

Engaging players alongside player acquisition enables the growth of the player base and therefore the growth of potential paying players in games. Rovio aims to engage players with new content updates and in-game activities such as campaigns, promotions and other regular events.

Typically, mobile games have low player retention rates, forcing companies to invest heavily in user acquisition. According to Liftoff's report (2020), the average 7-day retention rate for mobile games was around 9% and the 30-day retention rate was 3%. Retention is how many of the players who downloaded the game on day X will play the game on day Y. Retention is not a perfect measure, but the figures help to show that a significant proportion of players who download the game usually stop playing within the first week/month.

## Monetization

In addition to growing the player base, it's important for Rovio to keep players active and convert free-to-play players into paying players. Players' willingness to pay is of course influenced by a company's ability to create quality games and content that players are willing to pay for.

Usually, a very small proportion of players who download a mobile game end up making in-game purchases. In addition, a relatively small percentage of paying players typically generate the majority of the games' revenue. For example, Rovio's top 5 games had an average of around 17 million monthly players in 2021, of which an average of around 400,000 spent money on the games. This means a monthly conversion rate of around 2.3%.

Therefore, it's important for mobile game companies to try to identify channels from which acquired players are more likely to be paying players and to target marketing efforts at these channels already at the user acquisition stage. Expertise in analytics is an essential part of this.

## Key metrics

When scrutinizing Rovio's business, it's good to understand and monitor certain metrics related to growing, maintaining and monetizing the player network. The key metrics reported by Rovio are:

**MAU** (Monthly Active Users) refers to the number of monthly active users, i.e., individual times the game is opened on mobile devices during the month.

**DAU** (Daily Active Users) corresponds to the number of individual server connections opened during the day. DAU is a good measure to grasp the size of a game's active player base.

**ARPDAU** (Average Revenue Per Daily Active User) refers to the average revenue an active user brings in daily. The indicator is calculated by dividing the daily gross bookings with the DAU figure. ARPDAU indicates the efficiency of game monetization and changes in ARPDAU reflect changes in, e.g., player willingness to pay and the number of daily players. For example, the release of interesting new game content should increase the metric. ARPDAU is also likely to rise as the game's player numbers decline, when the most enthusiastic players who are most likely to spend money on the game remain.

**MUP** (Monthly Unique Payers), i.e. the number of paying players per month.

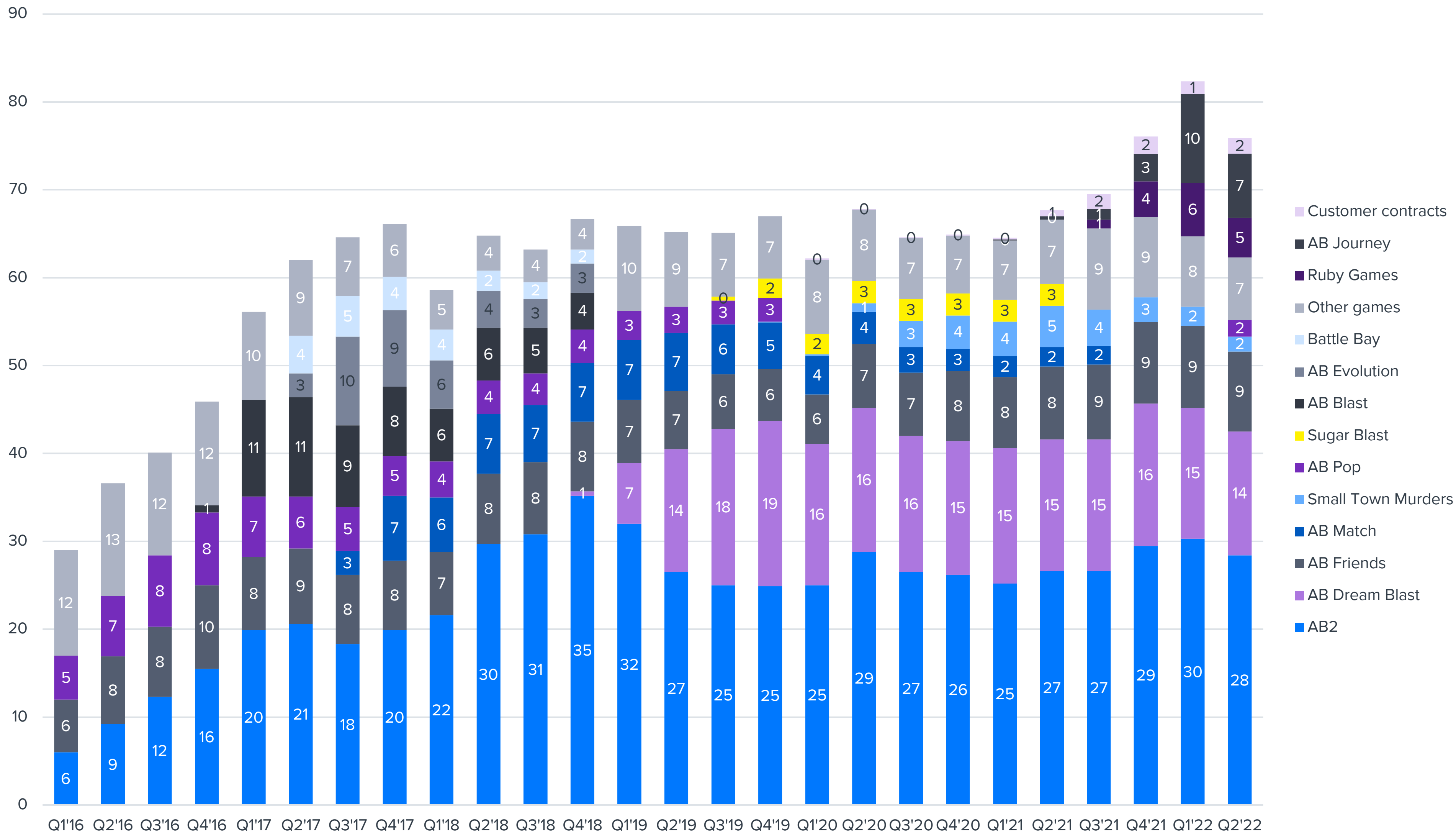
**MARPPU** (Monthly Average Revenue per Paying User)

Rovio's focus on optimizing the performance of its top games and targeted user acquisition has seen a steady decline in the number of daily and monthly active players over the years. In recent years, the DAU of top games has stabilized at around 3-4 million daily players and the ARPDAU has gradually improved.

At the portfolio level, the addition of Ruby Games' hyper-casual games resulted in a significant increase in DAU and a deterioration in ARPDAU from Q4'21 onward. Prior to this, DAU fell steadily as the old catalog games gradually faded away. At the same time, monetization metrics improved significantly. Thus, even after adjusting for Ruby Games, the revenue of Rovio's games business has been growing in recent years, despite declining player numbers.

# Key figures for Rovio's games business 1/3

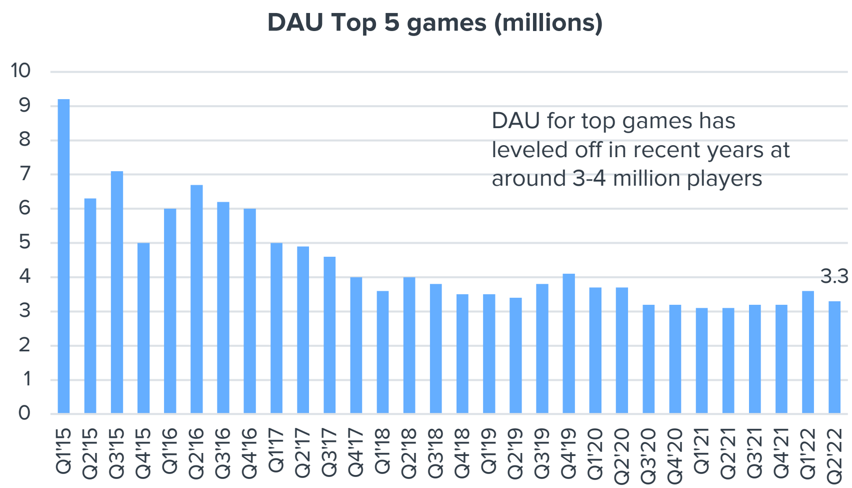
**Quarterly gross bookings per game (MEUR)**

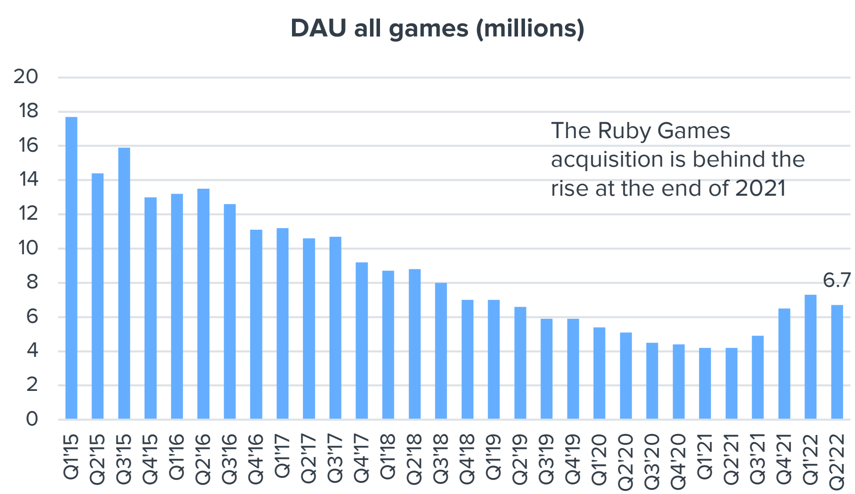



Source: Rovio, Inderes

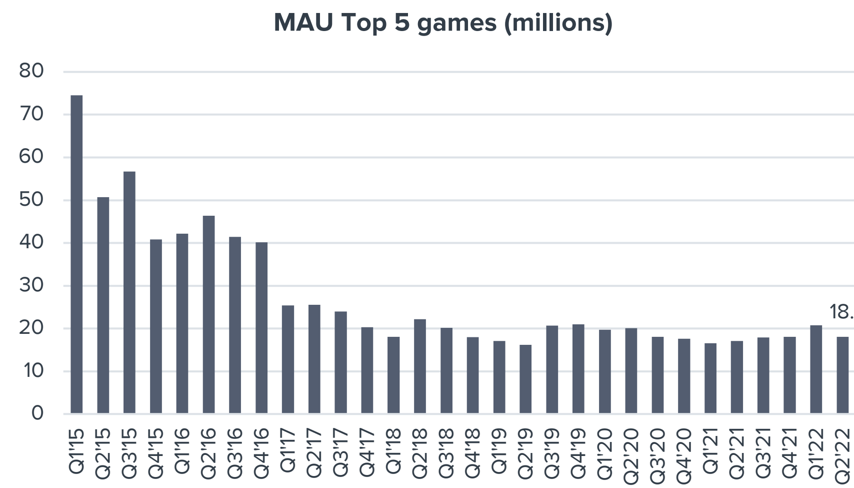
# Key figures for Rovio's games business 2/3

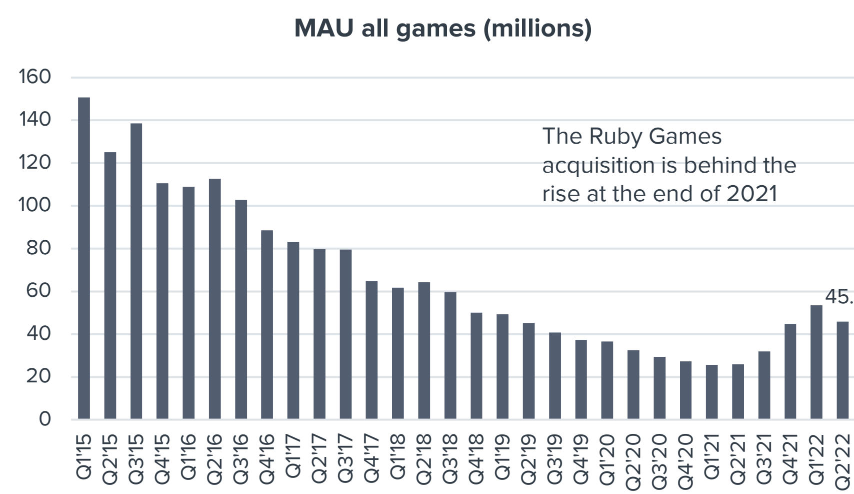
## Daily active players




## Monthly active players

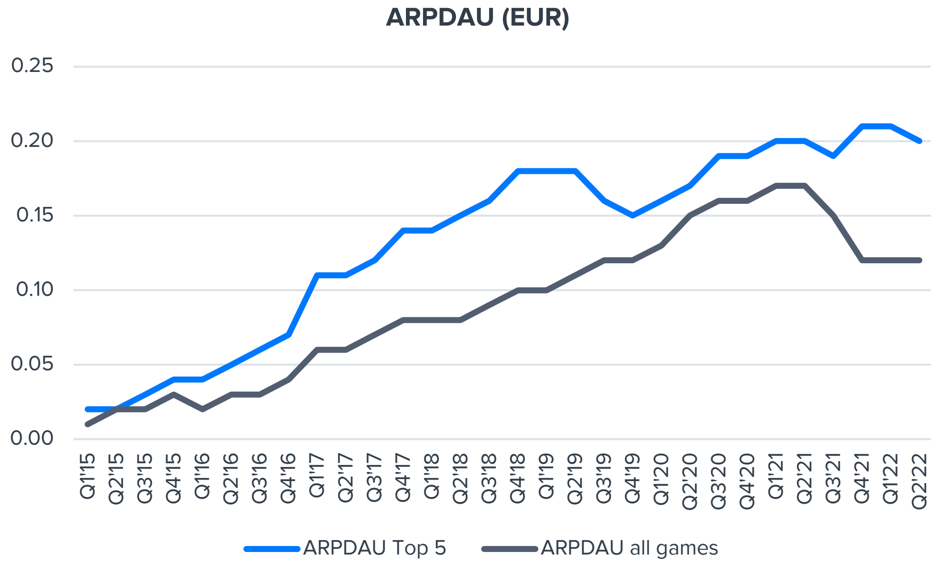


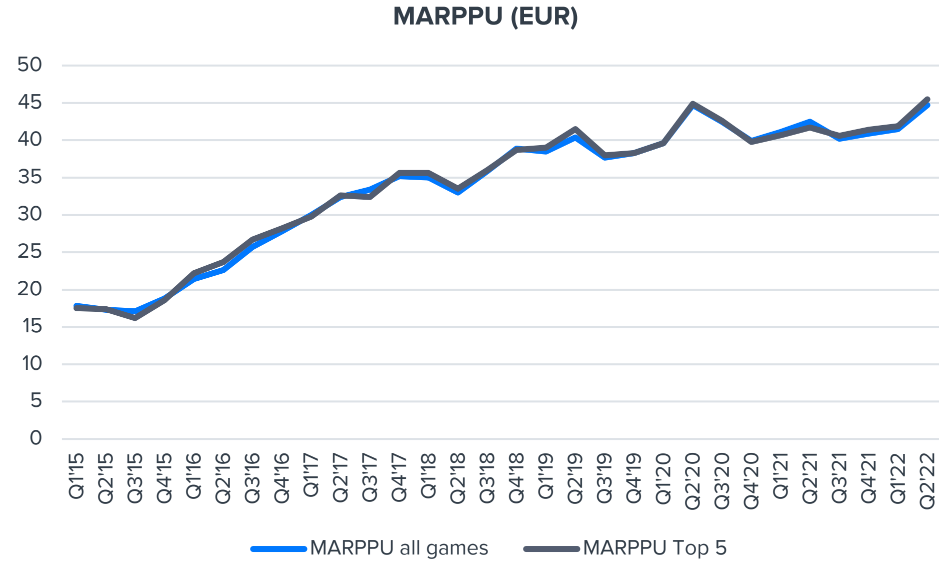



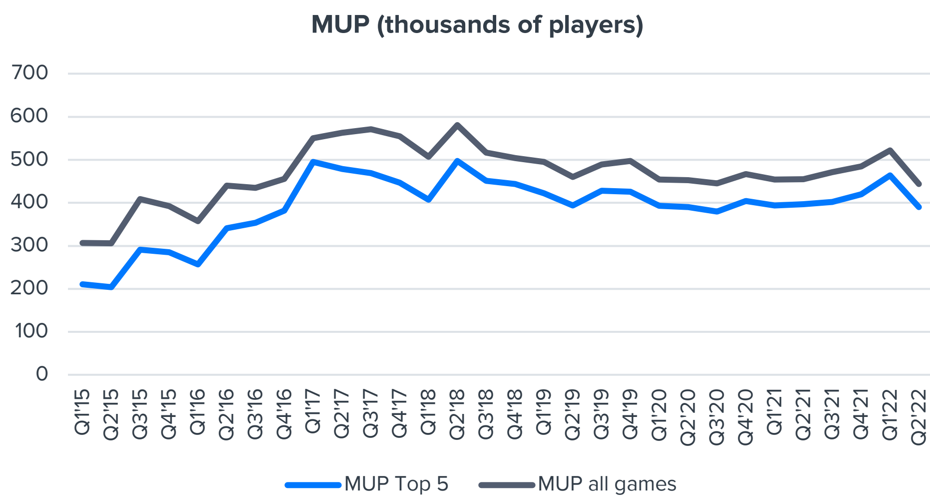

Source: Rovio, Inderes

# Key figures for Rovio's games business 3/3

## Monetization metrics




**ARPDAU** = average revenue per daily active user

**MARPPU** = monthly average revenue per paying user

**MUP** = monthly unique payers

Source: Rovio, Inderes

# Brand Licensing

## Angry Birds brand licensing

The previously separately reported Brand Licensing segment's revenue streams consist of the licensing of the Angry Birds brand in product categories other than mobile games. Consumer Products includes consumer products such as toys, clothing, books, comics and activity parks. Content Licensing is responsible for animated series and films and other digital products.

The business model works in such a way that Rovio licenses the brand to the licensee and receives royalty payments in return, which are tied to the licensee's revenue. The percentage of royalties varies (around 6% on average) and typically contracts also include a minimum payment.

## Change in strategic focus visible in declining licensing revenues

Rovio's licensing revenue has been declining in recent years as the company's strategy has focused primarily on its games business. At the end of 2019, the Brand Licensing segment was reorganized and merged into the company's marketing organization. Today, these functions should be seen more as a marketing tool to support the games business.

In 2013-2016, Rovio still invested heavily in the first Angry Birds movie, and in light of its success, the risky investment paid off. The production of Angry Birds 2 (2019) was licensed by Rovio to Sony-owned Columbia Pictures, which was also responsible for the marketing and distribution of the film. Thus, Rovio did not bear the risks associated with the production of the film, which is also reflected in substantially lower licensing revenues. The box office performance of Angry Birds 2 also fell short of expectations, which makes Rovio's strategic choice to focus on the games business seem well-timed after the success of the first film.

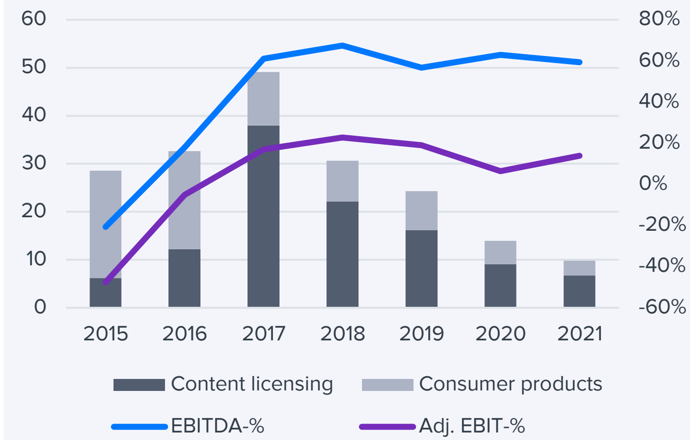
Despite the strong reputation of the Angry Birds brand, its best days in consumer licensing seem to be in the past. Consumer Products' revenue has been in clear decline in recent years and in 2021 it was EUR 3.1 million. At the time of the first AB film, licensing revenues from consumer products were still over EUR 20 million per year.

In June 2020, Rovio signed an exclusive global agreement for the licensing of Angry Birds consumer products and activity parks with IMG Licensing Worldwide. On the product side, the company sees growth opportunities from current levels, although we don’t expect these to have much impact at group scale.

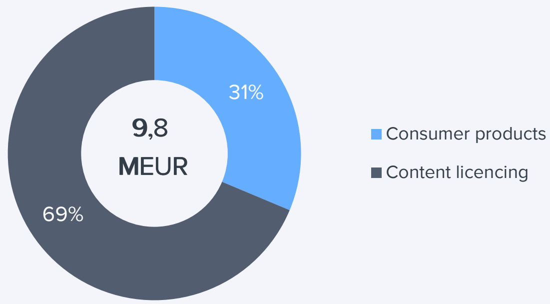
## Good cash flow with a declining revenue profile

The investment needs in the Brand Licensing segment are very small. Thus, in terms of profitability, EBITDA margin (2021: 60%) gives a better picture of the segment's strong cash flow profile, as amortization of development costs for Angry Birds films weighs on operating profit (2021: 11%). The amortization of an AB1 film represents 67% of the film's revenues in a given period, while the amortization of an AB2 film represents 100%. Although the impact of brand licensing on earnings is lower than that of the games business for Rovio, we expect it to continue to generate a solid cash flow in the coming years with a gradually declining profile.

### Brand Licensing revenue and profitability




### Revenue breakdown 2021




Source: Rovio, Inderes

# Investment profile

## A stable gaming company with new growth opportunities under its wings

Under CEO Alex Pelletier-Normand, who took over at the beginning of 2021, Rovio has transformed itself in a much more growth-oriented direction. With acquisitions and the establishment of new game studios, the company is developing several growth opportunities under its wings that could significantly accelerate Rovio's growth in the medium term, if they are successful. Rovio's current game portfolio is mainly at a mature stage of its life cycle and generates strong cash flow to invest in new game development and acquisitions. Thus, the company has a strong foundation to build on and can look forward to the breakthrough of a future gaming project.

From an investor's perspective, the challenge is to assess Rovio's balancing act between growth and profitability. Scaling up new growth games tends to weigh on Rovio's profitability in the short term. Ultimately, the growth of successful games is also reflected in the bottom line as they reach a mature stage in their life cycle. This dynamic is also reflected in Rovio's financial targets, where the company aims for adjusted EBITDA to grow in line with revenue growth. Thus, growth is the key value driver for the stock in our view, as Rovio has a strong track record of profitable game maintenance in the Earn phase.

## Potential and value drivers

**Growth through new game releases** would reinforce confidence in Rovio's strategy and support the valuation of the stock as the growth outlook strengthens. Successful new game brands would also bring diversification to the game portfolio, reducing dependence on Angry Birds games.

**Acquisitions** allow Rovio to diversify its game portfolio and accelerate growth inorganically. Rovio's strong balance sheet provides a good starting point for mergers and acquisitions. The company is actively exploring acquisitions and we believe it’s likely that we will hear news on M&A activity within the next 12 months.

**Broad game portfolio and the Angry Birds brand will help with user acquisition:** Rovio's games are played by nearly 7 million players every day and tens of millions of players every month. The company's extensive network of players is an asset to the company and helps with the launch of new games and cross-promotion of games.

**Opportunity for a new global hit game:** Rovio has a strong track record of creating world-class Angry Birds IP. In addition, with AB2 and AB Dream Blast, the company has demonstrated its ability to create games with an annual revenue of around EUR 50-100 million. If the company manages similar or even better performances with its upcoming games, there would be significant upward pressure on our current estimates.

## Key risks

**Faster-than-expected decline in popularity of current top games** would weaken the growth outlook and weigh on Rovio's profitability more than expected. Especially for the large and profitable AB2 game, the risk is elevated. However, Rovio has managed to keep the game alive for over 5 years now and based on the last few quarters, the game is still performing convincingly well.

**Delays with game projects or failing to create new successful games:** Rovio's game portfolio is at a mature stage in its life cycle and without successful new game releases, growth will be difficult to achieve. The company's track record of creating new game brands is still rather thin.

**Decline in popularity of the Angry Birds brand:** Rovio's business in both games and brand licensing still relies almost entirely on the Angry Birds brand. In the coming years, this dependence should diminish as new game brands emerge.

**Failure in acquisitions:** Rovio is particularly looking to acquire small and medium-sized game studios, where there are risks associated with the retention of key personnel and the integration of studios. To our understanding, Rovio's criteria for deal valuations are quite strict, which limits the risk of overpayment.

**Change rate of the market and fierce competition:** The rapidly changing trends in the mobile games market make it very challenging to predict successful games and achieve long-term success. In the short term, the challenges to user acquisition posed by Apple's IDFA change, the normalization of the post-COVID demand spike and the weakening economic outlook will put a brake on growth in the mobile games sector and create uncertainty.

**Increase in user acquisition costs:** User acquisition is a major expense for all mobile game companies and the price of digital advertising platforms has increased significantly over the years. Rising costs contribute to limiting the profitability potential of games companies.

# Investment profile

1. **A stable games company with growth ambitions**

2. **New game releases and acquisitions are key value drivers**

3. **Broad game portfolio and the Angry Birds brand will help with user acquisition**

4. **A portfolio focused on casual games is well suited to the short-term turbulence in the mobile games market**

5. **Strong balance sheet and good cash flow enable growth efforts**

## Potential

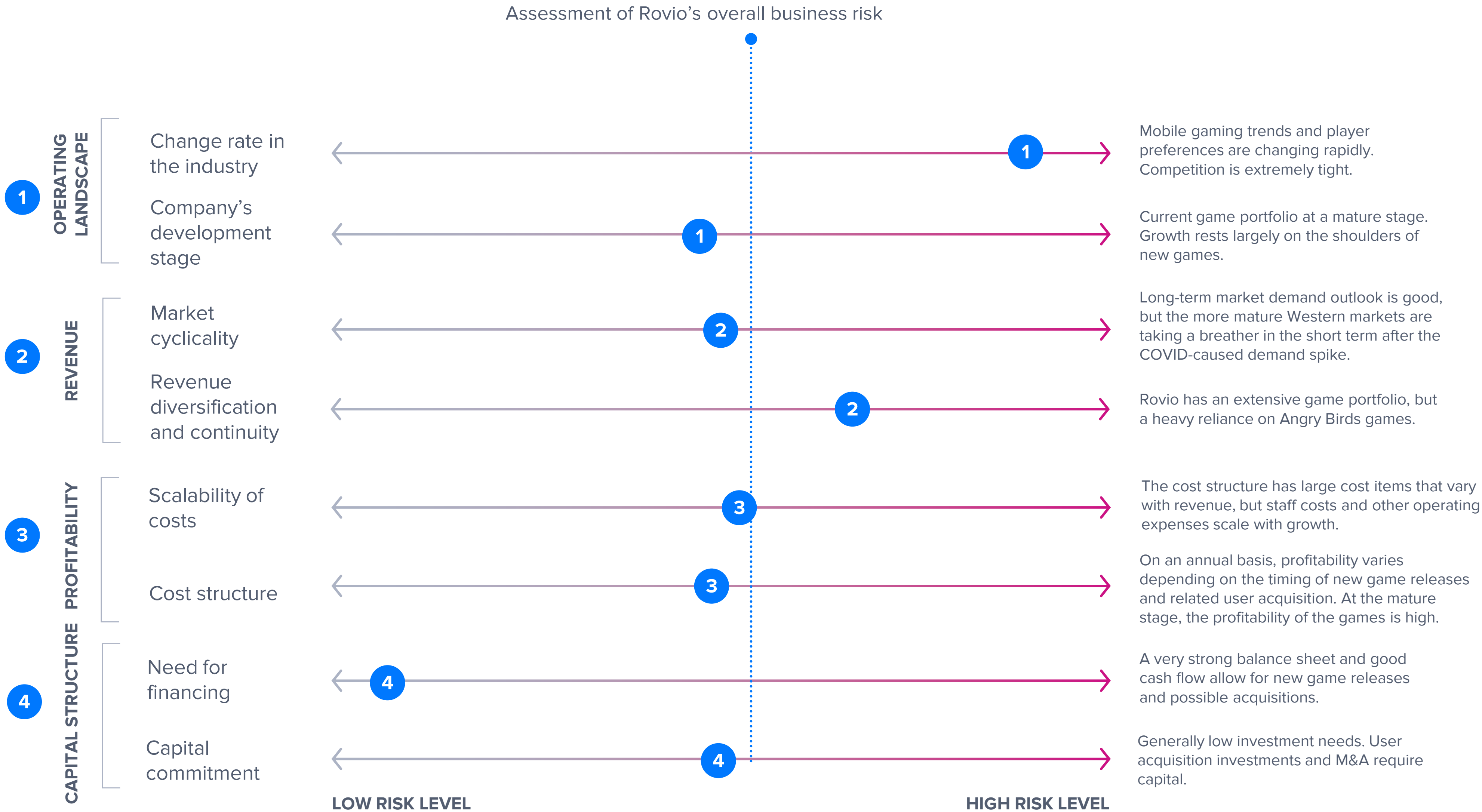
- Growth through new game releases
- Diversification of the game portfolio and reduction in the relative share of Angry Birds games
- Accelerating growth and diversifying the portfolio through acquisitions
- Opportunity for a new global hit game
- Low valuation multiples have upside potential as the strategy progresses and growth accelerates

## Risks

- Faster-than-expected decline in popularity of current top games
- Delays with future game projects or failing to create new successful games
- Decline in popularity of the Angry Birds brand
- Demand normalizing after the spike brought on by the COVID pandemic, the weakening economic environment and the challenges to user acquisition brought on by Apple's IDFA change put the brakes on the overall market in the short term
- Rapidly changing market trends, intensifying competition and increased user acquisition costs

Source: Inderes

# Risk profile of the business model




Source: Inderes

# Markets 1/3

## The size and growth of the global games market

Newzoo estimates the global games market to grow by around 2% to USD 197 billion in 2022. The projected stable performance would be good given that the gaming market got a huge boost in 2020-2021 as a result of the COVID pandemic. Newzoo expects the market to continue to grow at around 5% in the coming years, driven in the big picture by growth in both the number of players and the amount of money spent on games.

Geographically, the biggest market is formed by Asia-Pacific that covers some 49% of the market of which China's market forms around one-half. The second and third largest geographical areas are North America (26%) and Europe (17%).

Mobile devices (smartphones and tablets), which are relevant for Rovio, together account for just over half of the total global games market with a projected value of around USD 104 billion (+5% growth). Newzoo forecasts that the mobile games market will continue to grow at 4.3% between 2021 and 2025, making mobile gaming the fastest growing gaming segment. Rovio's key target markets are North America and Europe, and the company's strategy is to grow revenue faster than the Western market growth (~4.6%).

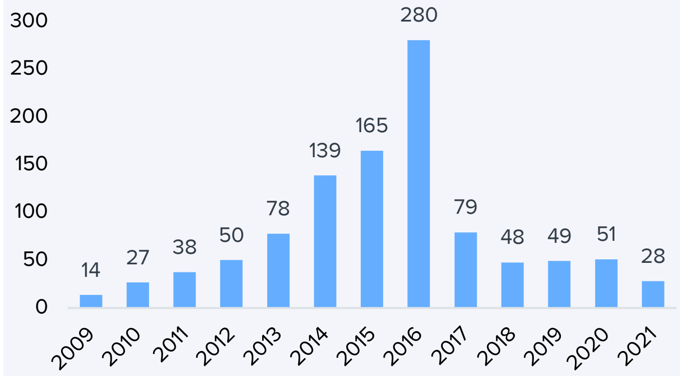
Newzoo's forecast for mobile games growth this year seems quite optimistic when compared to the data collected by Sensor Tower on the development of the market. According to Sensor Tower, the amount of money spent on mobile games in the US fell by around 9.6% in H1'22. In the Puzzle (-8.8%) and Hyper-casual (-2.2%) genres, which are relevant for Rovio, the decline was slightly smaller. Additionally, according to data.ai, the global mobile games market fell by 3.8% in H1'22. This development is driven not only by the post-COVID digestion but also by Apple's IDFA change and its impact on user acquisition of mobile games. Moreover, accelerating inflation and a weakening economic outlook are contributing to discouraging some consumers from spending money on games. Despite the short-term challenges, we share the belief of Rovio and market research companies that the market will return to growth in the coming years.

## Mobile games market

The current mobile games market was virtually born only in 2007 with the release of the first iPhone and has grown exponentially since then. The growth has been driven by factors such as the increased number of smart phones, the continued rise in popularity of gaming and the increase in the amount of money spent on games. Today, especially in more mature western markets, growth is primarily driven by the increase in the amount of money spent on games.

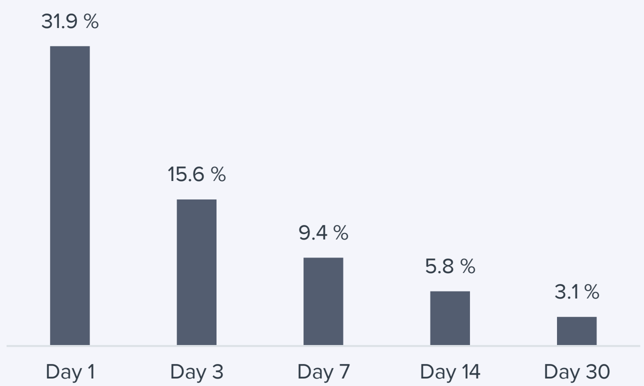
A fast-growing market with a low entry barriers has historically attracted a lot of competition. The number of mobile game companies, and therefore the number of games published, grew rapidly in the last decade. In 2016, a record 280,000 new mobile games were released on Apple's App Store. Since then, the number of games released has dropped significantly, as game companies have prioritized keeping their existing live games as viable as possible for as long as possible. On average, player retention in mobile games is very low. According to Liftoff's report, on average around 3% of players open a game after 30 days of downloading it.

**Number of new games released on Apple Store (thousands)**




Source: PocketGamer.biz

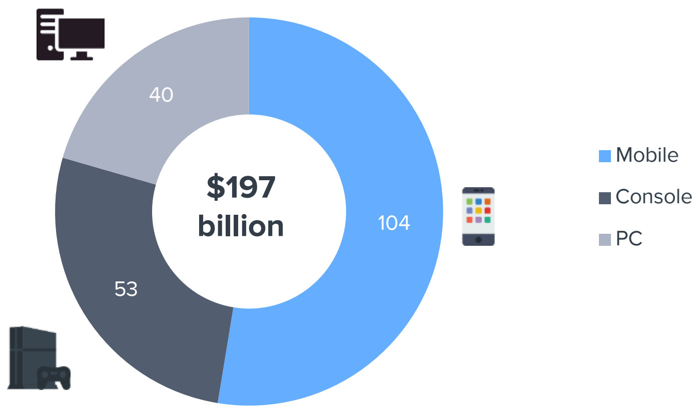
**Player retention in mobile games**



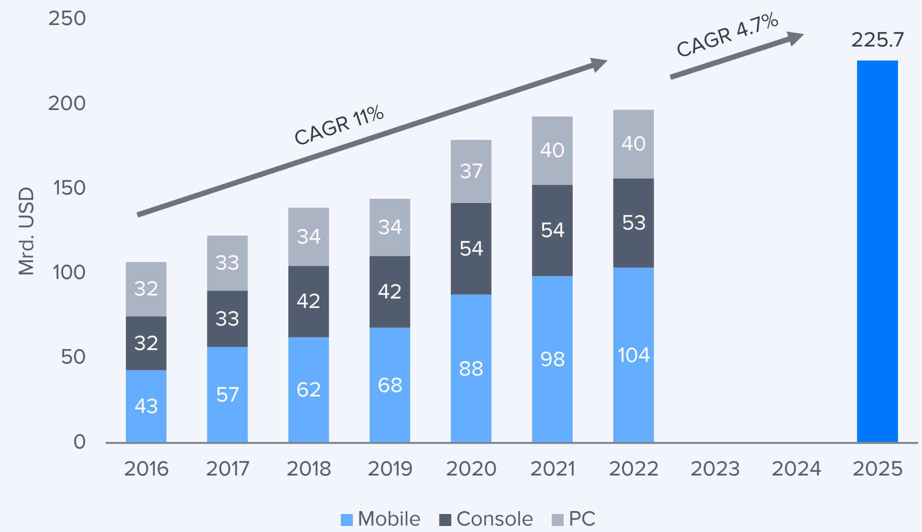

Source: Liftoff Mobile Gaming Apps Report 2020

# Markets

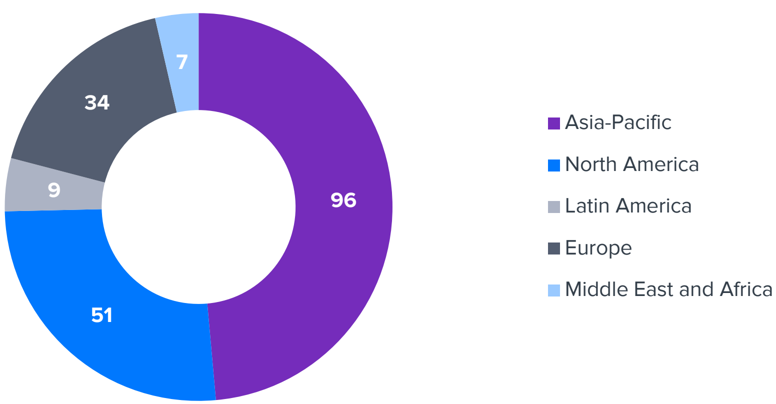
## Games market by platform 2022



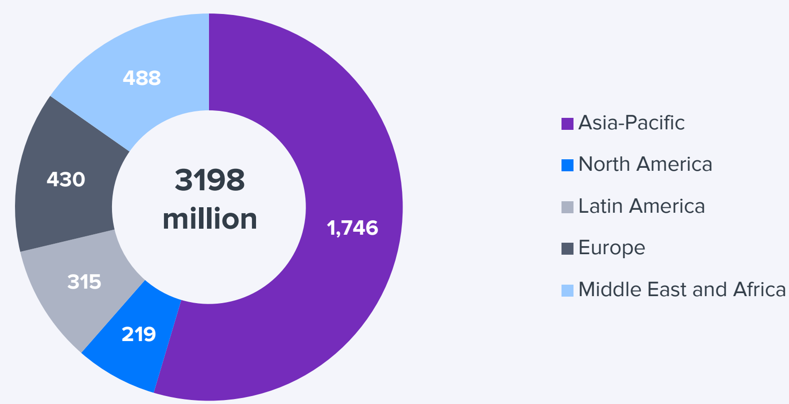

## Games market development




## Geographical breakdown of games market




## Number of players (millions)




Source: Newzoo, Inderes

# Market 2/3

According to PocketGamer, there were around one million active mobile games on the App Store at the end of 2021. Although the pace of new games entering the market has slowed in recent years, it's still very challenging to stand out in the market. Increased competition over the years has led to a significant increase in user acquisition costs as more and more games compete for the attention of the same mass of players. Standing out in today's market requires either the creation of a unique and successful game concept and/or large resources for large-scale user acquisition and marketing. This favors the big gaming companies with strong resources.

What makes the mobile games market and the F2P business model attractive is that digital distribution platforms have the potential to very quickly attract a large global player base. If a game release is successful, it can generate hundreds of millions or even billions of euros in revenue over its lifetime. This requires the game to enter the top 100 list of the top-grossing games in the major markets and stay there as long as possible. To reach billions in revenue, the game needs to be near the top of the list and stay there for several years.

However, creating long-term success in the mobile games market is very difficult and competition is fierce. According to analytics firm Sensor Tower, in 2020, 65% of the mobile games revenue in the US market was generated by games in the top 100. This contributes to the fragility of the mobile games industry, where the odds of widespread success are very low, and in the end a relatively small number of successful games capture most of the industry's revenues.

## Market trends

The mobile games industry is evolving rapidly, and success requires companies to be adaptable and quick to respond to the right trends. In the following sections, let's take a brief look at some of the trends in the mobile games industry, most of which also affect Rovio.

### Consolidation accelerates in mature Western markets

The mobile games market remains rather fragmented, but in recent years there has been a marked acceleration in the consolidation of the market. Particularly, the Western market has already reached a fairly mature stage and the growth rate of the market has slowed down. As a result, we believe that increased competition and increased reliance on user acquisition are the key trends driving market consolidation.

Consolidation is supported by the fact that the large game portfolios of the major game companies reduce the risks associated with individual games. This also makes cross-promotion of games within your own games effective. In addition, sufficient scale and strong financial resources facilitate game development and user acquisition. With increased economies of scale, more and more games companies have made M&A a more central part of their strategy. Rovio is also actively exploring potential acquisition targets and we believe the company will continue to play a buyer's role in the consolidation of the market.

### Apple's restrictions on sharing IDFA data make user acquisition difficult

Apple restricted the sharing of IDFA data in the April 2021 operating system update (iOS 14). IDFA is the information that identifies users and allows advertising services (e.g. Facebook) to offer advertisers the ability to precisely target their advertising. This change has made it more difficult for games companies to acquire players in the same targeted way as before.

With Apple's IDFA change, market-wide in-game revenue has declined this year, although downloads have continued to grow. This indicates that targeted advertising is more difficult than before and therefore user acquisition isn't as effective as before. Rovio's portfolio, which focuses on casual games, has been well suited to the current market situation, with a very broad potential player base. In addition, the strong brand awareness of Angry Birds generates a lot of organic downloads for the games in the app stores

The IDFA change will continue to create uncertainty in the short term, but we expect the major gaming companies to be best positioned to adapt. Large game portfolios and large player numbers make it easier to release new games to an existing audience. Large companies also tend to have strong capabilities in analytics. In turn, small game studios may find it increasingly difficult to gain visibility and publish new games. This may further accelerate market consolidation.

### Pressure faced by app stores

In recent years, Apple and Google have faced increasing pressure to lower the 30% commission they charge on all in-app purchases of games downloaded from app stores. Last year, the issue was highlighted in the legal battle between Apple and Epic Games.

# Market 3/3

In September 2021, the lawsuit was granted at least a temporary injunction. Interestingly for game developers, this required Apple to allow the option to indicate alternative payment methods for in-game purchases. This would allow players to make payments via different method than directly in-game with Apple's payment service. If implemented, this would allow Rovio to make clear cost savings and at the same time strengthen the network effects between Rovio's games. Rovio could build a unified network and "loyalty program" between games, so that, for example, virtual currency purchased in one Rovio game would also work in other games. Rovio has a history of developing technology for a fan loyalty program, and as such we believe the company will be able to respond fairly quickly if and when Apple is forced to open its doors to alternative payment methods. However, this could take a long time as Apple is resisting the changes.

### Increase in user acquisition costs

As the number of mobile games has grown and the time available to players has remained relatively constant, competition for players' screen time and money has increased significantly over the last 5 years. Standing out from the hundreds of thousands of games is challenging, and game companies can make a real difference through game quality and effective user acquisition. An increasing number of games companies have user acquisition budgets in the tens or even hundreds of millions of euros per year. Increased investment has been reflected in higher unit costs for user acquisition. In the long term, we expect user acquisition costs to continue to rise.

### Rising quality standards

The strong growth of the mobile games market and the low entry barrier has historically led to a very variable quality of mobile games. The performance of today's mobile devices is practically on par with that of game consoles, and this has made it possible to bring higher quality and larger games to mobile. For example, Epic Games' hugely popular Fortnite can be played on consoles, PCs and mobile devices. Rovio is also working specifically on the development of multi-platform games at its new Montreal studio.

Recently, more and more game IPs originally developed for console/PC have started to be ported to mobile devices (e.g. Call of Duty). As the quality of games increases, so do players' expectations of them. Increasing quality requirements may lengthen mobile game development cycles and increase game production budgets.

### The role of analytics is emphasized

Analytics plays a very important role in the mobile games business and is becoming increasingly important. Analytics allows fine-grained analysis and segmentation of the player population into very small groups. This allows developers to test different game experiences and monetization paths within games based on players' actions and solutions. Analytics can also help companies optimize and improve user acquisition. Rovio has invested heavily in its proprietary technology platform and the use of analytics is a key part of the company's business model.

### Emphasis on social elements in games

As the cost of user acquisition rises, it's important for mobile game companies to try to keep players engaged for as long as possible. The aim is to create social elements in games, giving players more reasons to return to the game. Today, more and more games have increasingly positioned themselves as social media platforms (e.g. Fortnite, Roblox), where you spend time with friends and other players in addition to playing the game itself. For example, there have been concerts within Fortnite by popular artists that have attracted audiences of over 10 million players. One long-term trend is metaverse, where more and more of people's interactions in the real world are transferred to the virtual worlds of games. One of the areas of research at Rovio's Montreal studio is the future of social gaming.

### Augmented reality (AR), virtual reality (VR) and location-based games

With the huge popularity of Niantic's Pokémon GO, released in the summer of 2016, several game developers became interested in the potential of AR and location data in mobile games. Utilizing these enables not only completely new game concepts, but also, for example, location-based advertising. However, no other game has yet managed to replicate the success of Pokémon GO. Virtual reality (VR) has also been a trend in the game industry for a long time, but VR has not yet made a breakthrough on a large scale. So far, it seems that the VR market is still developing slowly in mobile games.

# Trends and competitive factors in the mobile games market

| Market trend | Consequence |
|---|---|
| **Apple IDFA change** | Targeted user acquisition more difficult than before |
| **Maturation of the Western market** | The large European and US markets will continue to grow at a slower pace than in the past |
| **Market consolidation** | Scale strengthens the competitive advantages of large companies |
| **Pressure faced by app stores** | Downward pressure on the 30% commission for app stores, which would benefit game developers |
| **Rising quality standards** | Good games sell more, bad ones less, game development costs rise |
| **The role of analytics is emphasized** | Customized gaming experiences and monetization paths, effective user acquisition |
| **Emphasis on social elements in games** | A close-knit gaming community improves player loyalty and willingness to pay |
| **Increase in user acquisition costs** | The profitability potential of mobile games companies is weakening |
| **AR, VR, location-based games, multi-platform games** | New platforms and technologies are emerging |

## Key competitive factors

### Game features:

**Successful mobile games often feature:**

- Social aspect of gaming
- Making strategic decisions
- An innovative new approach

### User acquisition

**Growing games requires effective player recruitment, which requires:**

- A strong brand
- A network of players
- Analytics expertise
- Financial resources

### Scalability:

**The conditions for scaling up are:**

- A strong technology platform
- In-depth analytics
- Scalable maintenance services

Source: deltaDNA, Newzoo, Electronic Arts, Inderes

# Strategy 1/2

### Profitable growth - casually

Rovio's strategy is to drive profitable growth in its games business and focus on its strengths as a developer of casual mobile games. In addition to further strengthening the strong Angry Birds brand in this genre, the company will seek to develop and acquire new game brands to expand its game portfolio. From Rovio's development pipeline, only games that the company sees as having the potential to reach a significant size category and generate cash flow in the long term will make it to actual launch. This inevitably means that many projects will be abandoned before global release, but eventually new successful games will hit the market. The latest example of this is AB Journey, published in January 2022.

Rovio's focus on casual games enables cross-promotion between games, which, if successful, prolongs the retention of an individual player in Rovio's player network and thus increases the lifetime value of the player. The Angry Birds games' high profile and large player base are a clear strength for the company, which will help with user acquisition. AB games are also typically very profitable and have a better chance of success than a completely unknown new game brand. In our view, the challenge for growth in puzzle and slingshot games is the cannibalization of games. Therefore, there can't be several similar AB-branded games in the same genre at the same time, partly because of the same target audience. Moreover, while the Angry Birds brand is a clear strength for Rovio, it's also a risk factor. The success of the company's games business is still highly dependent on the revenues of the major AB games, and a sudden decline in the popularity of these games would quickly have a negative impact on the company's results.

Rovio wants to develop new game brands in its game portfolio alongside Angry Birds. In recent years, the company experimented with expanding into role-playing and strategy games, but after Apple's IDFA change in 2021 at the latest, the company found it very challenging to compete in these genres as targeted user acquisition became substantially more difficult. Thus, the company decided to focus its development resources on creating casual mobile games, although some features of role-playing and strategy games may be seen in future "mid-casual" games.

When it comes to new game brands, we think Rovio still has the most to prove in its strategy. Small Town Murders, released in 2020, started out looking promising, but for the last three quarters its user acquisition has been on hold while the game's metrics are being improved. In Q2'22, the game was moved from Grow to the Earn category, which we think indicates that the game's resources are being redirected more strongly to other projects. Furthermore, earlier experiments in strategy and role-playing games had to be scrapped. Of the new game brands, Rovio currently has Moomin: Puzzle & Design and Ruby Games' Hunter Assassin 2 in soft launch. Their release will be the next showcase for the company's strategy in this area.

Success in creating new game brands is one of the key drivers of Rovio's long-term growth. In addition, new successful game brands would lower the risk profile of Rovio's business by reducing the dependence on Angry Birds. In the short term, the company will also do well with its current strong cash-flow generating top games.

In addition to its F2P business, Rovio is exploring the future of gaming at its Montreal studio, established in 2020. Rovio believes that mobile gaming will continue to be the most popular gaming platform, but sees the popularity of, e.g., social gaming and multi-platform gaming growing in the coming years. The aim is also to expand the Angry Birds brand beyond mobile games. In the next few years, these projects will only appear as expenses in the financial statement, and revenue is expected from 2024 onwards at the earliest.

### The Beacon platform brings scalability to growth, game development and acquisitions

For more than a decade, Rovio has been developing its own Beacon technology platform, which the company uses to operate all its games. The platform combines people, technology, data and established processes to develop, analyze, publish and grow free-to-play mobile games. The platform offers synergies across Rovio's different game studios, as data and lessons learned from previous games can be applied to new games. Beacon also offers opportunities on the M&A front, as Rovio can provide a ready platform for small studios or teams to start scaling up their games. Overall, the resources provided by Rovio will substantially improve the development opportunities and growth potential of the acquired team/studio's games under Rovio's wing.

# Strategy 2/2

## M&A

Rovio is actively exploring acquisition targets to accelerate growth and diversify its game portfolio. Especially small teams and medium-sized game studios that already have games on the market are potential targets. In larger deals, valuation levels could become a challenge, and Rovio's balance sheet wouldn't be sufficient for the largest M&A transactions.

In small and medium-sized acquisitions, valuation levels are more moderate and the conditions for value creation are good for both Rovio and the studio being acquired. In addition to the technology platform discussed on the previous page, Rovio can provide the acquired studios with the funding and user acquisition expertise to scale their games. The Ruby Games acquisition in August 2021 is a good example of this.

From Rovio's perspective, small M&A transactions can also serve as a substitute for recruitment, where at the same time the company expands its game portfolio with new IP. The Playraven acquisition in 2018 and the Darkfire Games acquisition in 2019 are examples of this. In these cases, we believe that Rovio was able to buy teams of 20-25 people at a moderate price, as well as promising new game titles (Darkfire Heroes and Hardhead Squad), but these didn't turn out to be successful new games.

## Financial objectives

Rovio updated its long-term financial targets at its Capital Markets Day in May. In terms of revenue, the company is aiming for faster growth than that of the Western market. In turn, adjusted EBITDA is expected to grow in line with revenue growth.

This year, Rovio's growth is clearly outpacing market growth, driven by the launch of AB Journey and inorganic growth from Ruby Games. However, our growth expectations for the coming years are even more moderate than targets, reflecting Rovio's game portfolio, which is at a relatively mature stage of its life cycle. However, with successful new game releases, Rovio has the potential to maintain its targeted growth rate in the coming years.

In our view, Rovio's updated profitability target reflects the fact that significant scaling of profitability from current levels (adj. EBITDA 2021: 19% and 2022e: 16%) shouldn't be expected. We estimate that the long-term sustainable profitability level for Rovio is around 15-20%, depending on new game releases and their success and user acquisition needs. Each game has a slightly different profitability profile, and we estimate that this is why Rovio wants to aim for absolute earnings growth rather than relative profitability. For example, AB Dream Blast has a much higher revenue than AB Friends, but in absolute euros Friends currently generates a higher profit. This is because the game collects all its downloads organically, whereas Dream Blast requires significant user acquisition efforts to maintain or increase its revenue levels.

## Dividend policy and repurchase of own shares

Rovio's target is to pay a dividend of roughly 30% of the annual net profit minus items affecting comparability. The company's dividend distribution has also been in line with targets in recent years. With its strong net cash position, Rovio could also pay significantly higher dividends if it so wished. However, the company's growth strategy of M&A and ramping up new games requires a strong cash position, which is why we expect the dividend payout ratio to remain low.

In addition to the dividend distribution, Rovio bought a significant number of its own shares on the market in 2018-2020. The company currently holds around 9% of the total share capital and the legal ownership limit of 10% restricts any further acquisitions. The company may transfer its own shares under its incentive schemes, use them for acquisitions or cancel them, thereby increasing the ownership of the company by existing shareholders. Rovio's own shares provide a great amount of firepower for M&A on top of the strong net cash position.

# Strategy and financial objectives

## Key growth areas

### Casual F2P mobile games

- Maintaining and growing a large player base for Angry Birds games
- Diversification of the game portfolio with new game brands, thereby expanding the player network and lowering the risk level
- Leveraging the strong player network, e.g., through cross-promotion

### M&A

- Accelerating growth and diversifying the gaming portfolio through M&A
- Targeting small teams, such as the Playraven and Darkfire Games acquisitions
- Medium-sized game studios (e.g. Ruby Games) are also interesting
- Rovio can offer smaller studios, e.g., the technology platform, funding and user acquisition expertise to scale games

### Identifying new growth opportunities

- Montreal studio and future of gaming
- Focus on, e.g., social gaming and multi-platform gaming
- Extending the AB brand beyond mobile
- Long-term growth options
- Revenue in 2024 at earliest

## Financial objectives

### Growth

Faster growth than that of the Western market (4.6%)

2019-2022e: 4%

### Profitability

Adjusted EBITDA increases in line with long-term revenue growth

2019-2022e EBITDA-%
11-22%

### Dividends

Payout ratio ca. 30% of adjusted net profit

Source: Inderes

# Financial position 1/2

## Revenue growth starting to pick up

In 2017, Rovio's revenue increased by 55% to EUR 297 million, driven by the strong performance of AB2 and the first Angry Birds movie. After that, Rovio's revenue was on a slight downward trend for three years (CAGR 18-20: -2.9%), with a slight increase in the games business (CAGR 18-20: 1.4%) was not enough to compensate for the sharp decline in the Brand Licensing segment (CAGR 18-20: -34%) revenue. In 2021, Rovio's revenue turned to 5% growth, supported by strong performance of top-tier games, new game releases and Ruby Games. Thanks to the same factors, Rovio's revenue growth accelerated to 20% in H1'22. The strengthening of the dollar also supported the reported growth rate early in the year.

## Profitability and cash flow at a good level

Rovio's group-level profitability in 2017-2021 has varied between 11-22% in terms of EBITDA and 6-17% in terms of adjusted EBIT. The biggest variable behind profitability has been the level of investment in user acquisition. In 2021, these costs recovered from the exceptionally low level of 2020 with new game releases, resulting in a drop in profitability (2021 adj. EBIT 13% vs. 2020: 17%). Thus, Rovio's adjusted EBIT weakened by 7% to EUR 43.7 million in 2021. EBITDA for 2021 was EUR 50.8 million and due to Rovio's relatively low investment needs, it also turned into a cash flow with a good efficiency ratio. The net cash flow from operating activities in 2021 was EUR 44.0 million. For the next few years, Rovio's profitability will be supported by a number of large games that have reached a mature stage and are generating strong cash flow, while potential new game releases will put pressure on profitability.

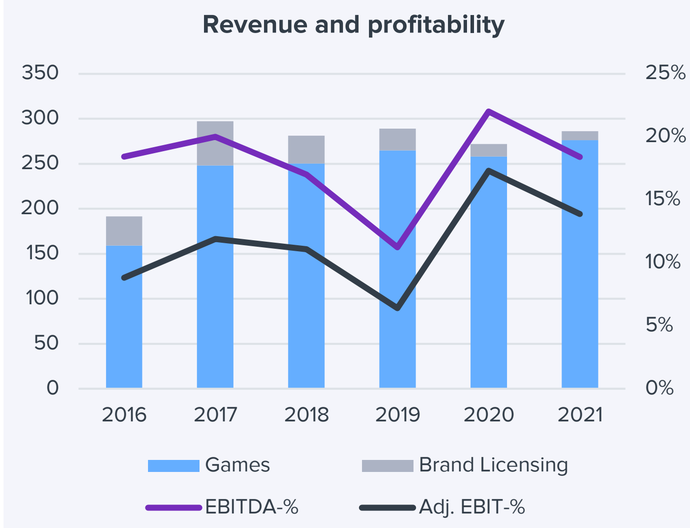
## Cost structure

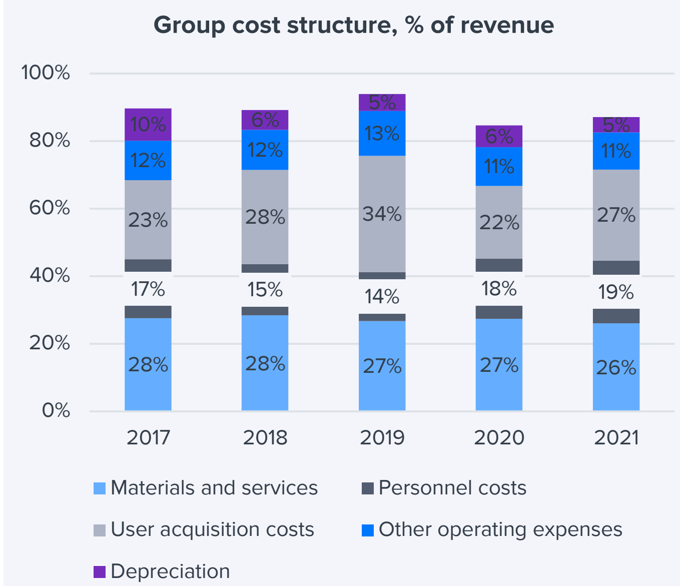
Typically for a mobile games company, Rovio's cost structure consists of large cost items that vary with revenue, fixed personnel costs and other operating expenses. Rovio's gross margin at group level has been 72-74% in recent years, with the 30% distribution cost of Apple/Google as the main cost item deducted from the revenue generated by in-game purchases.

In recent years, user acquisition costs have accounted for 22-34% of Rovio's revenue or 23-38% of the Games division's revenue. Rovio estimates that the long-term sustainable level to maintain growth is around 30% of the games business revenue.

In recent years, personnel costs have accounted for 14-19% of revenue and other operating expenses for 11-13%. These costs are mainly fixed in the short term and their relative share of revenue should gradually decrease with growth. In particular, we see a slight scaling potential in personnel costs after Rovio's front-loaded studio investments.

In recent years, Rovio's depreciation has accounted for around 5-6% of revenue. Rovio will capitalize its game development on the balance sheet very moderately (2021: 2.6 MEUR) the capitalization of development expenditure on AB films is already starting to be largely written off. Thus, the company's EBITDA fairly well reflects the cash flow generated by the business, even though with IFRS 16 leases are recorded as depreciable right-of-use assets.




Source: Inderes

# Financial position 2/2

## Balance sheet and financial position

Rovio's balance sheet is in a very strong shape. At the end of Q2’22, equity ratio was 71% and net gearing -82%. Net cash position that accounts for future contingent consideration payments was about EUR 140 million at the end of Q2, and Rovio's good cash flow bolsters the cash situation quarter on quarter. The strong balance sheet gives the company a good platform for M&A and allows it to invest in scaling new games to the market. Thanks to the good cash flow from operations, we believe the company could also take on some debt if necessary.

Rovio's balance sheet total at the end of Q2'22 was EUR 311 million. Most of the balance sheet assets consisted of cash and other liquid financial assets (185 MEUR) and goodwill arising from the Ruby Games acquisition (41 MEUR). Intangible assets (23 MEUR) mainly relate to development costs from Ruby Games, capitalized expenditure on the AB films and game development costs. The remaining assets consisted mainly of short-term receivables (33 MEUR), investments (13 MEUR) and fixed assets (8 MEUR), the majority of which relate to office spaces in accordance with IFRS16.

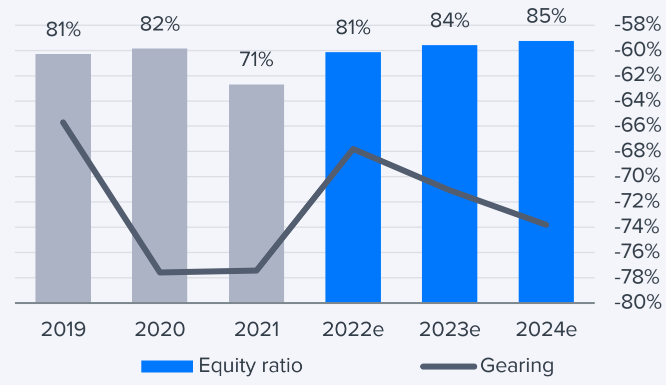
Rovio's equity (215 MEUR) represented the largest part of the balance sheet liabilities. The company had only EUR 0.4 million in interest-bearing debt and EUR 6.8 million in IFRS16 lease liabilities. The contingent liability related to the acquisition of Ruby Games for the additional purchase price totaled EUR 44 million. Short-term non-interest-bearing liabilities amounted to EUR 42 million.

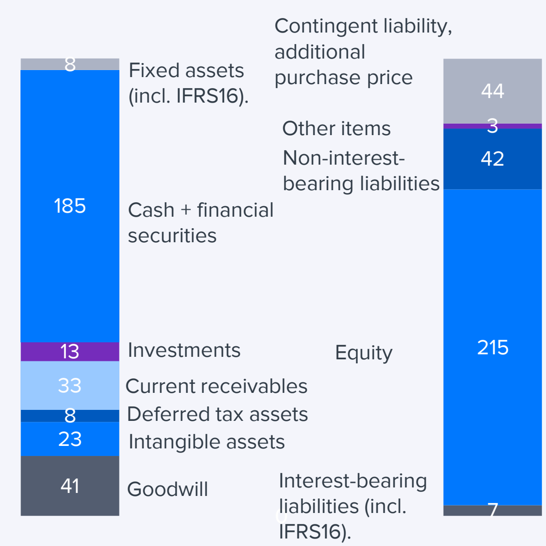
## Half of Ruby Games' purchase price to be paid in October

Under the terms of the arrangement, Rovio will acquire Ruby Games in several tranches. In the first installment paid towards the end of 2021, Rovio bought 20% of Ruby's shares for USD 10 million in cash.

In October 2022, Rovio will purchase 50% of Ruby's shares in a second tranche at a price linked to Ruby's financial performance measured by revenue and EBITDA for the last 12 months prior to October 2022, but not exceeding USD 80 million. For the second installment, 60% will be paid in cash and 40% in Rovio shares. Based on the additional short-term purchase price in the Q2 balance sheet, the value of the second installment is roughly EUR 30 million. In our view, the fact that the amount is well below the maximum purchase price indicates that Ruby Games' post-acquisition performance has been relatively neutral compared to expectations.

The remaining 30% of Ruby's shares will be bought by Rovio in five equal tranches over the next five years. The value of the shares is determined by Ruby's financial performance, measured by EBITDA for each period, without exceeding the sum of the five-year total EBITDA. At least 50% of the instalments are paid in cash and the remainder in cash or shares.




Source: Inderes

# Estimates 1/3

## Basis for the estimates

We have summarized the revenue forecasts per game in a table on page 35. In the coming years, we forecast that Rovio's current top games will generate revenues with a gradually declining profile. Meanwhile, we expect the Hunter Assassin 2 and Moomin: Puzzle & Design games in soft launch to start generating more significant revenues during 2023. After that, we expect the next releases in the development pipeline to take place in 2024.

As a whole, Rovio currently has several solidly performing games in the Earn phase that will provide a stable revenue stream for the coming years and support the company's profitability. Growth is more on the shoulders of new game releases, where visibility before the games are released is low. Scaling up new games is a burden on Rovio's profitability due to user acquisition investments. However, the bigger Rovio eventually manages to grow its future games, the greater their earnings potential at the mature stage of their life cycle in a few years' time. Our assumptions for future game releases are relatively modest, which is why we expect user acquisition costs in the coming years to remain at a sustainable level of around 29% of game revenue over the long term.

We forecast Brand Licensing's revenue (2022e 9.5 MEUR) to continue on a gradually declining trend as revenues from the AB films decrease and sales of consumer products decline. Due to the small weight of the unit, Rovio's revenue development is almost entirely dependent on the development of the games business.

In terms of profitability, we forecast a stable gross margin of 75% for Rovio. With Rovio's new studio investments and increased recruitment, we expect the level of fixed costs to increase in the coming years. At the same time, the growth brought by AB Journey will support profitability in the coming years. Therefore, we expect Rovio's performance to remain fairly stable in the coming years.

## Assumptions for new games

It's difficult to predict the success of Rovio's new games and there is also uncertainty about their release dates. In addition, the level of user acquisition investment in games depends on the games' metrics. The better the metrics look, the more players are worth acquiring for the game if the modeled lifetime value of a player exceeds the unit cost of acquiring a user (LTV > CPI). In addition, not all games on the test market have good enough performance metrics, so some projects are abandoned before they are actually released. Because of the above factors, there is considerable forecasting risk for new games.

In the table on the next page, we have summarized the revenue development of Rovio's previous game releases in the quarters following their release. There is, of course, a wide variation in the success of games. For example, AB Journey, released in early 2022, achieved gross bookings of around EUR10 million in one quarter shortly after its global release, while some games have remained in the 2-3 MEUR range. In addition, after strong first quarters, the revenue of some games has rapidly declined, creating challenges in predicting the duration of their success. For example, AB Journey's gross bookings fell to EUR 7.3 million right after the first quarter and it remains unclear what level the game's gross bookings will eventually reach.

To tackle the forecast risk, we expect the revenue growth of the next games to be somewhat more moderate than the average of the games released by Rovio in recent years. We expect the revenue of games to gradually increase from EUR 0.5 million to EUR 5 million in four quarters after the release, after which we expect the revenue to remain at EUR 5 million in the following quarters. We note that forecasts can change dramatically (up or down) as new games are released and new information on their revenue and profitability becomes available. Next, let's take a look at Rovio's game development pipeline for the last game released and potential new ones.

**Angry Birds Journey** is a slingshot and puzzle game released in January 2022 for the global market. The game grossed EUR 10.1-7.3 million in Q1-Q2'22, making it already Rovio's fourth biggest game. The game is a major growth driver for Rovio this year, but there is still uncertainty about its revenue levels in the coming years. Based on Rovio's Q2'22 report, the game's metrics don't currently support an increase in user acquisition, but Rovio's goal is to get the game back on track for growth. The game team is actively developing the game through continuous improvements and testing to achieve this. With reduced user acquisition in Q2, AB Journey is already a profitable game for Rovio at this stage. Our estimate expects the game to continue to generate gross bookings of EUR 6-7 million per quarter.

# Estimates 2/3

**Hunter Assassin 2** is Ruby Games' first hybrid-casual game and is currently in soft launch. It's a sequel to the original and very successful Hunter Assassin game which, unlike the original, will develop a deeper metagame, allowing monetization not only through advertising but also through in-game purchases.

In the Q2 results, Rovio commented that the long-term retention of the game was not good before, so the company decided to add a multiplayer mode to the game. In this respect, the preliminary results look promising. Ruby Games has indicated that it doesn't want to rush the game release, although a quick release could have allowed for a better price for the 50% stake in the acquisition to be paid in October. We think this shows Ruby's long-term commitment to Rovio, which is positive. In our estimate, we currently expect the game to generate more significant revenues from Q1'2023 onwards.

**Moomin: Puzzle & Design** is Rovio's first Moomin game, which had a soft launch to test markets in December 2021 in Poland, the Philippines and Finland. It's a puzzle game aimed primarily at women over 35. In Q2'22, the game completed market testing in Japan, where the game's retention was tested. The game team continues to add content to the game and the soft launch is moving forward, which we believe indicates that the initial retention numbers have been promising. We estimate that the game still has a long way to go before the actual release. If all goes well, we estimate that the release could be around next spring/summer. The Moomin brand is very popular in Japan, so if successful, the game has clear potential in this market. At this point, it is still difficult to assess the final reception of the players.

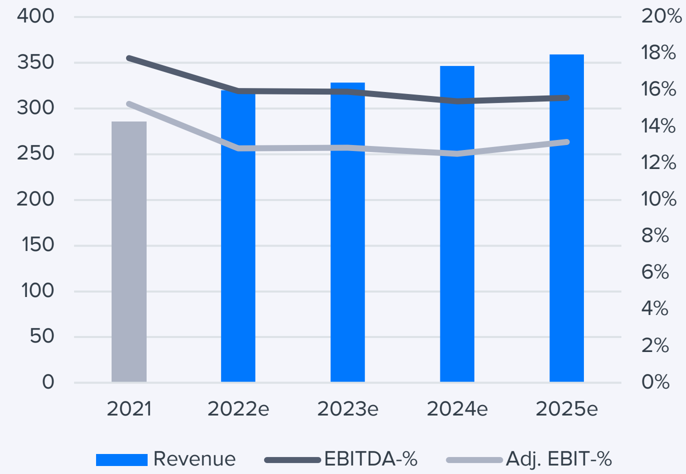
## Estimates for 2022

In its outlook, Rovio expects its revenue to grow strongly this year and its adjusted EBIT to be lower than last year (2021: 43.7 MEUR). The growth is supported by the positive development of top games, the launch of AB Journey and inorganic growth from Ruby Games. In H1, revenue already grew by 20%, so there is no uncertainty about the growth guidance, even though the comparison periods are stronger in H2. Rovio's adjusted EBIT after H1 is 31% above the comparison period, so the company may raise its outlook for the rest of the year if the level of user acquisition is lower than expected.

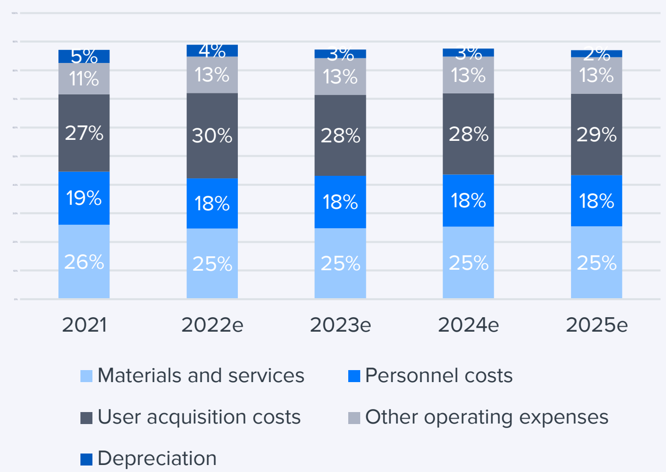
Rovio expects Q3'22 user acquisition to be 25-30% of games revenue, which is the same level as in the previous quarter (Q2'22: 27.5%). The level of user acquisition for the rest of the year will depend in particular on whether the company can increase user acquisition for its top games in a difficult market and whether we see the release of Hunter Assassin 2 before the end of the year. Based on Rovio's comments, the first half of Q3 has seen an increase in user acquisition for games such as AB2 and AB Dream Blast, with revenue from these games developing better than in Q2.

Our estimate expects Rovio's revenue to grow by 12% this year to EUR 320 million and adjusted EBIT to decline by 6% to EUR 41.0 million.

**Revenue and profitability**




**Group cost structure, % of revenue**




Source: Inderes

# Summary of game estimates 1/2

| Gross bookings per game | 2020 | Q1'21 | Q2'21 | Q3'21 | Q4'21 | 2021 | Q1'22 | Q2'22 | Q3'22e | Q4'22e | 2022e | Q1'23e | Q2'23e | Q3'23e | Q4'23e | 2023e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AB2 | 107 | 25.2 | 26.6 | 26.6 | 29.5 | 108 | 30.3 | 28.4 | 28.9 | 29.2 | 117 | 28.8 | 28.5 | 28.3 | 28.5 | 114 |
| AB Dream Blast | 63.2 | 15.4 | 15.0 | 15.0 | 16.2 | 61.6 | 14.9 | 14.1 | 16.0 | 15.8 | 60.8 | 15.7 | 15.5 | 15.4 | 15.5 | 62.1 |
| AB Journey | | 0.1 | 0.4 | 1.2 | 3.1 | 4.8 | 10.1 | 7.3 | 6.1 | 6.2 | 29.7 | 7.0 | 7.0 | 7.0 | 7.2 | 28.2 |
| AB Friends | 28.1 | 8.1 | 8.3 | 8.5 | 9.3 | 34.2 | 9.3 | 9.1 | 9.0 | 8.9 | 36.3 | 8.8 | 8.8 | 8.7 | 8.8 | 35.1 |
| Small Town Murders | 8.0 | 3.9 | 4.7 | 4.1 | 2.8 | 15.5 | 2.2 | 1.7 | 1.4 | 1.3 | 6.6 | 1.3 | 1.1 | 1.1 | 1.0 | 4.5 |
| Other games | 53.3 | 11.6 | 11.6 | 10.2 | 9.1 | 42.4 | 8.0 | 9.0 | 8.0 | 7.5 | 32.5 | 7.2 | 6.8 | 6.5 | 6.4 | 26.9 |
| Ruby Games | | | | 1.0 | 4.1 | 5.1 | 6.1 | 4.5 | 4.9 | 5.1 | 20.6 | 5.2 | 5.2 | 5.2 | 5.2 | 20.8 |
| Customer contracts | 0.4 | 0.2 | 0.7 | 1.7 | 2.0 | 4.6 | 1.5 | 1.8 | 1.5 | 1.5 | 6.3 | 1.5 | 1.5 | 1.5 | 1.5 | 6.0 |
| Hunter Assassin 2 | | | | | | | | | | 1.0 | 1.0 | 3.0 | 5.0 | 5.0 | 5.0 | 18.0 |
| Moomin: Puzzle&Design | | | | | | | | | | | | | 0.5 | 1.0 | 3.0 | 4.5 |
| New game 2023 #2 | | | | | | | | | | | | | | | 0.5 | 0.5 |
| **Total** | **259** | **64.4** | **67.3** | **68.3** | **76.1** | **276** | **82.3** | **75.9** | **75.8** | **76.5** | **311** | **78.5** | **79.9** | **79.7** | **82.6** | **321** |
| *Growth %* | *-1%* | *3%* | *-1%* | *6%* | *17%* | *6%* | *28%* | *13%* | *11%* | *1%* | *12%* | *-5%* | *5%* | *5%* | *8%* | *3%* |

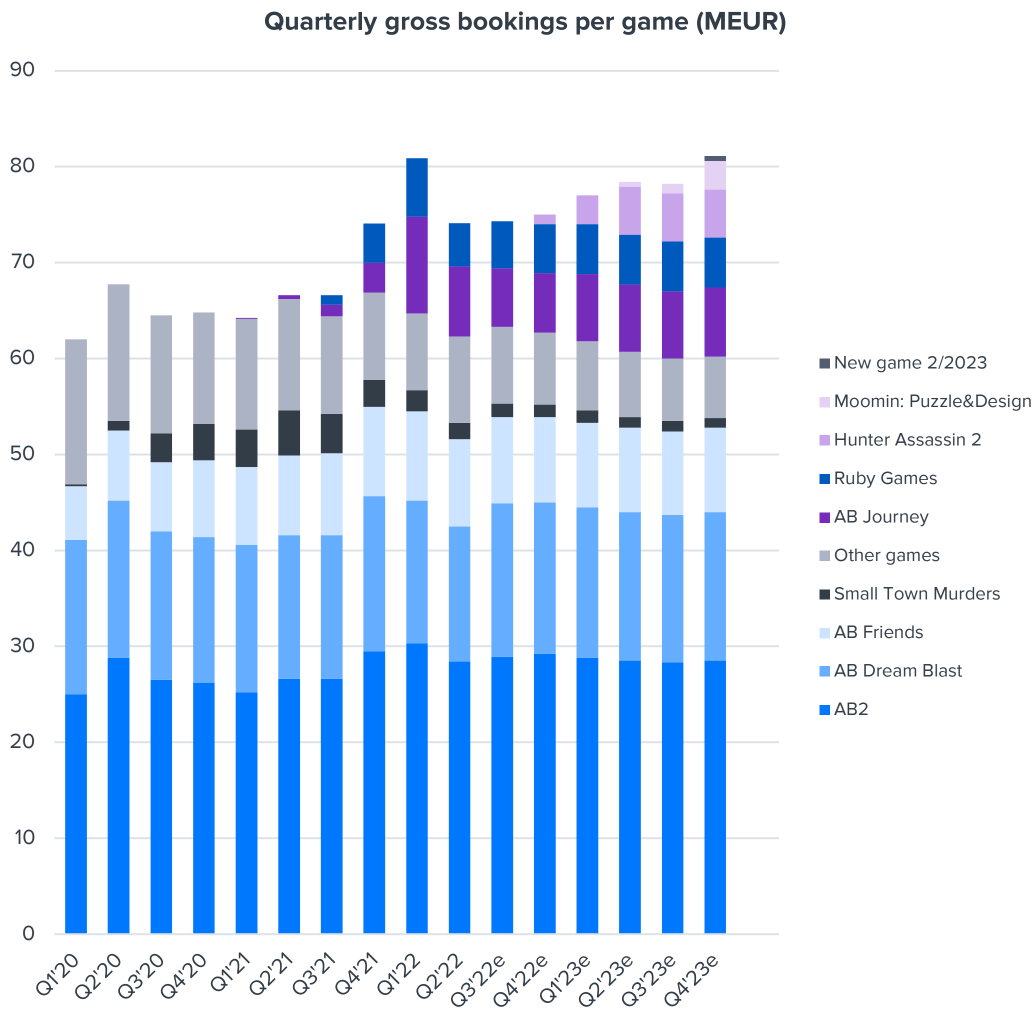
Source: Inderes

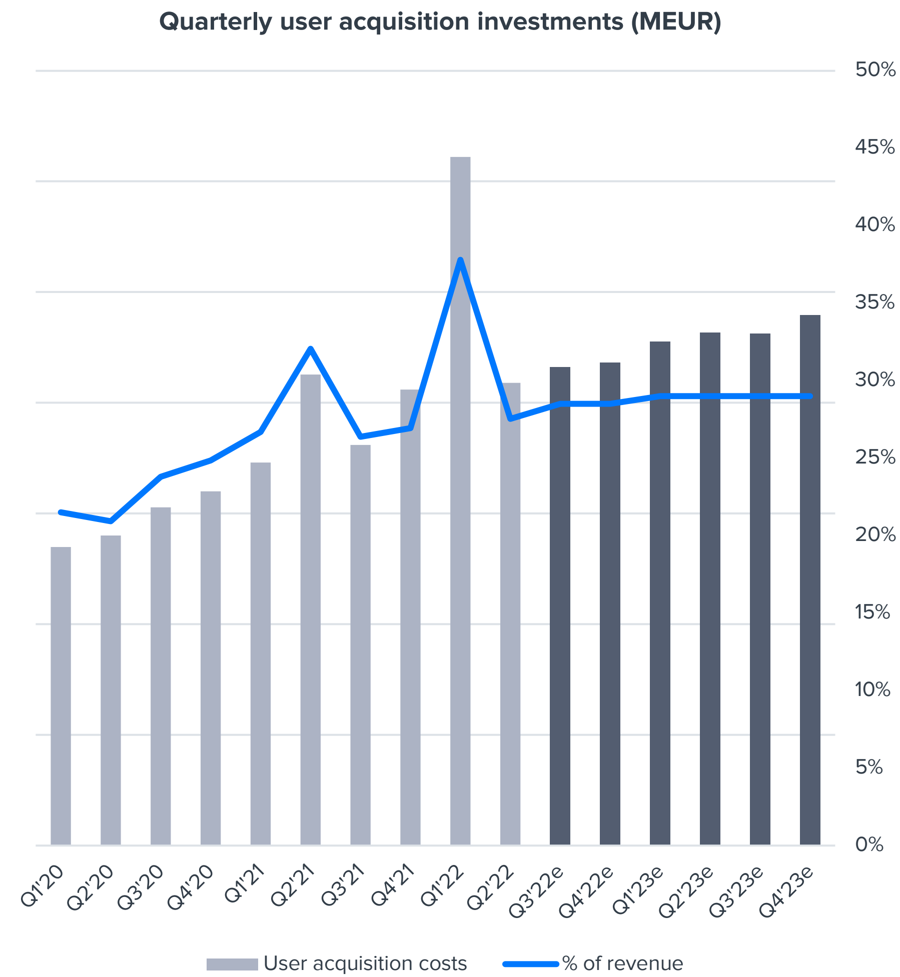
**Revenue trends after the global launch for Rovio games in recent years**

| Quarters from release | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| AB Dream Blast | 6.9 | 14.0 | 17.8 | 18.8 | 16.1 | 16.4 | 15.5 |
| AB Match | 2.7 | 7.4 | 6.2 | 6.8 | 6.5 | 6.7 | 6.8 |
| AB Blast | 0.8 | 11.0 | 11.3 | 9.3 | 7.9 | 6.0 | 6.0 |
| AB Evolution | 2.7 | 10.1 | 8.7 | 5.5 | 4.2 | 3.3 | 3.3 |
| Battle Bay | 4.3 | 4.6 | 3.8 | 3.5 | 2.3 | 1.9 | 1.6 |
| Small Town Murders | 1.0 | 3.0 | 3.8 | 3.9 | 4.7 | 4.1 | 2.8 |
| Sugar Blast | 0.5 | 2.2 | 2.3 | 2.6 | 2.5 | 2.5 | 2.5 |
| AB Journey | 10.1 | 7.3 | | | | | |
| **Median** | **2.7** | **7.4** | **6.2** | **5.5** | **4.7** | **4.1** | **3.3** |
| **Average** | **2.7** | **7.5** | **7.7** | **7.2** | **6.3** | **5.8** | **5.5** |

Source: Inderes

# Summary of game forecasts 2/2




Source: Inderes

# Estimates 3/3

### Estimates for 2023-2025

In 2023, we expect Rovio's revenue growth to moderate to 3%, as the gradual decline in revenue from top-tier games offsets the growth-enhancing impact of new games. In 2024, we forecast growth to pick up again to 6%, driven by new game releases, and for 2025 we forecast 4% growth. At this stage, visibility into longer-term forecasts is very weak and largely dependent on the success of new game releases and the rate at which revenues from top-tier games fall or in the best-case scenario, rise. Furthermore, potential acquisitions could change the growth outlook for the coming years.

We forecast Rovio's relative cost structure to remain almost stable between 2023 and 2024, which means that our profitability forecast is also almost stable (adj. EBIT-%: 12.9-12.5%). Thus, we expect an operating result (2023e-2024e: 42.2-43.4 MEUR) to grow only slightly in the coming years.

In 2025, we estimate a slight scalability of the cost structure with growth and EBIT to grow to EUR 47.3 million, corresponding to an EBIT margin of 13.2%.

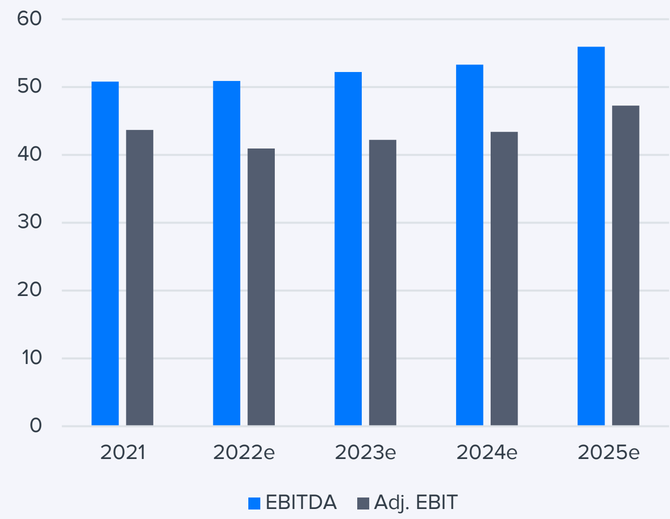
We forecast Rovio to pay a stable dividend of EUR 0.12 per share in the coming years, although the company's strong net cash position would also allow for a significantly higher payout. However, we expect that the company will primarily seek to invest its cash in M&A.

### Long-term estimates

In our long-term forecasts, we expect Rovio's revenue to grow by 3% in 2026, followed by steady growth of 2% between 2027 and 2030. This is also our terminal assumptions for growth.

Under current long-term profitability assumptions, we expect Rovio's EBIT margin to be 13% in 2026, falling to 12% in 2028. After that we expect the EBIT margin to remain stable at 12%. In a good scenario, Rovio also has the potential to outperform our estimates in the long term. However, fierce competition in the mobile games market and rising user acquisition costs are creating margin pressures for all players in the industry. Much will also depend on the profitability profile of the games that Rovio releases in the coming years. Relative profitability can be higher if the games are of the AB Friends type, where very strong profitability is achieved with lower revenue. At the other end, games like AB Dream Blast have higher revenue but lower relative profitability. In absolute euros, however, the results of the games are in the same ballpark.

**EBITDA and EBIT**




**EPS and dividend**


Source: Inderes

# Income statement

| Income statement | 2020 | Q1'21 | Q2'21 | Q3'21 | Q4'21 | 2021 | Q1'22 | Q2'22 | Q3'22e | Q4'22e | 2022e | 2023e | 2024e | 2025e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | **272** | **67.1** | **68.8** | **71.4** | **78.9** | **286** | **85.0** | **78.4** | **78.0** | **78.5** | **320** | **328** | **346** | **359** |
| Games | 258 | 64.9 | 66.4 | 68.6 | 76.5 | 276 | 82.3 | 75.8 | 75.8 | 76.5 | 310 | 321 | 340 | 354 |
| Brand Licensing | 14.0 | 2.2 | 2.4 | 2.8 | 2.4 | 9.8 | 2.7 | 2.6 | 2.2 | 2.0 | 9.5 | 7.5 | 6.5 | 5.5 |
| **EBITDA** | **60.0** | **11.7** | **8.7** | **16.9** | **13.5** | **50.8** | **11.1** | **14.3** | **13.5** | **12.0** | **50.9** | **52.2** | **53.3** | **56.0** |
| Depreciation | -17.5 | -2.2 | -2.6 | -2.9 | -5.4 | -13.1 | -3.6 | -3.8 | -2.9 | -2.9 | -13.2 | -10.0 | -9.9 | -8.7 |
| **EBIT (excl. NRI)** | **47.2** | **10.1** | **6.2** | **14.3** | **13.1** | **43.7** | **10.0** | **11.3** | **10.6** | **9.1** | **41.0** | **42.2** | **43.4** | **47.3** |
| **EBIT** | **42.5** | **9.5** | **6.2** | **14.0** | **8.1** | **37.7** | **7.5** | **10.5** | **10.6** | **9.1** | **37.7** | **42.2** | **43.4** | **47.3** |
| Net financial items | -1.8 | 0.9 | -0.1 | 0.6 | 1.2 | 2.5 | 0.2 | 2.0 | 0.0 | 0.0 | 2.1 | -0.1 | -0.1 | -0.1 |
| **PTP** | **40.7** | **10.4** | **6.0** | **14.6** | **9.2** | **40.3** | **7.6** | **12.5** | **10.6** | **9.1** | **39.8** | **42.1** | **43.3** | **47.2** |
| Taxes | -8.6 | -3.0 | -1.1 | -3.0 | -3.0 | -10.1 | -2.2 | -2.8 | -2.3 | -2.0 | -9.3 | -9.3 | -9.5 | -10.4 |
| Minority interest | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Net earnings** | **32.1** | **7.4** | **4.9** | **11.6** | **6.3** | **30.1** | **5.5** | **9.7** | **8.2** | **7.1** | **30.5** | **32.9** | **33.8** | **36.8** |
| **EPS (adj.)** | **0.50** | **0.11** | **0.07** | **0.16** | **0.14** | **0.47** | **0.10** | **0.14** | **0.11** | **0.09** | **0.44** | **0.43** | **0.44** | **0.48** |
| **EPS (rep.)** | **0.44** | **0.10** | **0.07** | **0.16** | **0.08** | **0.41** | **0.07** | **0.13** | **0.11** | **0.09** | **0.40** | **0.43** | **0.44** | **0.48** |

| Key figures | 2020 | Q1'21 | Q2'21 | Q3'21 | Q4'21 | 2021 | Q1'22 | Q2'22 | Q3'22e | Q4'22e | 2022e | 2023e | 2024e | 2025e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue growth-%** | -5.8 % | 0.8 % | -0.6 % | 5.1 % | 15.2 % | 5.1 % | 26.7 % | 14.0 % | 9.3 % | -0.6 % | 11.8 % | 2.6 % | 5.6 % | 3.6 % |
| **Adjusted EBIT growth-%** | 157% | -22% | -56% | 12% | 76% | -7% | -1.2 % | 82.9 % | -25.9 % | -30.5 % | -6.3 % | 3.1 % | 2.8 % | 8.9 % |
| **EBITDA-%** | 22.0 % | 17.5 % | 12.7 % | 23.7 % | 17.0 % | 17.8 % | 13.0 % | 18.3 % | 17.3 % | 15.3 % | 15.9 % | 15.9 % | 15.4 % | 15.6 % |
| **Adjusted EBIT-%** | 17.3 % | 15.1 % | 8.9 % | 20.0 % | 16.6 % | 15.3 % | 11.7 % | 14.3 % | 13.6 % | 11.6 % | 12.8 % | 12.9 % | 12.5 % | 13.2 % |
| **Net earnings-%** | 11.8 % | 11.0 % | 7.1 % | 16.2 % | 7.9 % | 10.5 % | 6.4 % | 12.4 % | 10.6 % | 9.0 % | 9.5 % | 10.0 % | 9.8 % | 10.2 % |

Source: Inderes

# Valuation 1/3

## Investment view

We reiterate our EUR 7.5 target price for Rovio and raise our recommendation to Buy (prev. Accumulate). With the stable earnings we forecast for the coming years, Rovio's share valuation already looks very low, and we see room for upside. However, a significant upward correction in valuation requires a stronger earnings growth outlook, which Rovio also has the potential to achieve with the games under development, the further development of AB Journey and through acquisitions enabled by strong balance sheet. The strong cash flows of Rovio's current game portfolio give the company plenty of time to create new successful games. At the same time, the growth expectations loaded on the stock are moderate, which limits the downside in a scenario where the next game releases don't take off. Thus, at current levels, we consider the stock's risk/return ratio to be attractive.

## Valuation multiples

We estimate Rovio's earnings level to remain practically stable in the coming years and EBIT to be in the range of around EUR 41-43 million. With our forecast for the current year, this means an EV/EBIT multiple of 7x, and with strong cash flow, the corresponding multiples will fall to 6x-5x in 2023-2024. We believe the multiples are low in absolute terms and see upside potential in them, although the weak earnings growth outlook we project for the next few years contributes to limiting the upside. However, at current levels, we see the multiples as very attractive. Assuming Rovio is successful in executing its strategy in the medium term, there would be upside potential in the stock, both in terms of rising earnings estimates and valuation multiples. Based on Bloomberg consensus data, Rovio's forward-looking EV/EBIT multiple has ranged from 5.6x to 19.7x between 2017 and 2022, with a median of 10.6x.

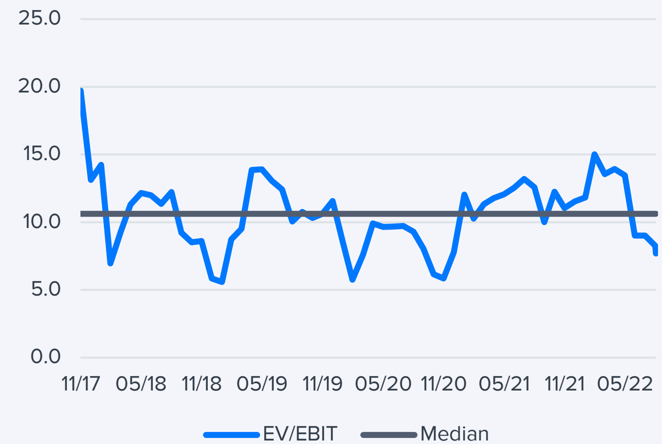
The P/E ratio (2022e-2023e: 13x) also makes Rovio's valuation look reasonable, even though it doesn't account for the company's very strong net cash position. If we assume that EUR 100 million of our year-end projected net cash of around EUR 150 million would be "excess", Rovio's cash-adjusted P/E ratio would be around 10x.

With our estimates, Rovio's 2022-2023 EV/Sales multiples are 0.9x and 0.8x. Also, with sales-based multiples, we believe Rovio's valuation looks low and supports our view of a moderate share price. According to Bloomberg consensus data, Rovio's forward-looking revenue multiples have ranged between 0.5x-2.4x between 2017 and 2022, with a median of 1.2x. However, for mobile game companies, relying on sales-based multiples alone is challenging, as game revenue can be increased by increasing user acquisition efforts. User acquisition is based on models based on player lifetime value (LTV), and the parameters underlying LTV (e.g. player retention and willingness to pay) can change along the way. Thus, especially for new games, we believe that the profitability of user acquisition contains more risks than normal, and the value created by growth is difficult to assess during the scaling-up phase of the game. For the size of Rovio's game portfolio, this is not so much of a problem compared to companies with only a few games on the market.

| Valuation | 2022e | 2023e | 2024e |
|---|---|---|---|
| Share price | 5.64 | 5.64 | 5.64 |
| Number of shares, millions | 76.3 | 76.6 | 76.8 |
| Market cap | 430 | 432 | 433 |
| EV | 282 | 259 | 236 |
| P/E (adj.) | 12.7 | 13.1 | 12.8 |
| P/E | 14.1 | 13.1 | 12.8 |
| P/FCF | >100 | 13.0 | 12.7 |
| P/B | 2.0 | 1.8 | 1.6 |
| P/S | 1.3 | 1.3 | 1.2 |
| EV/Sales | 0.9 | 0.8 | 0.7 |
| EV/EBITDA | 5.5 | 5.0 | 4.4 |
| EV/EBIT (adj.) | 6.9 | 6.1 | 5.4 |
| Payout ratio (%) | 30.0 % | 28.0 % | 27.3 % |
| Dividend yield-% | 2.1 % | 2.1 % | 2.1 % |

Source: Inderes

Rovio's historical earnings-based valuation




Source: Inderes, Bloomberg

# Valuation 2/3

### Peer group

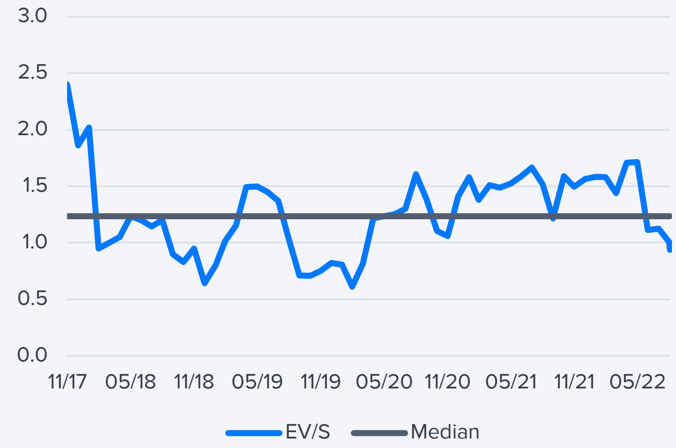
We have compiled Rovio's peer group of listed Western mobile games companies. The peer companies differ in terms of the scope of their game portfolio, size, stage of development, growth and profitability profile. Thus, no company is directly comparable to Rovio. In recent years, the market has also seen several M&A transactions, resulting in a decrease in the number of listed mobile games companies.

Among the larger transactions, in early 2021, EA acquired Glu Mobile for a purchase price (EV) of ca. USD 2.1 billion, equivalent to a multiple of 3.5x EV/S and 23x EV/EBITDA. In early 2022, Take-Two announced the acquisition of Zynga for a purchase price of USD 12.7 billion (EV). The valuation of the transaction was equivalent to roughly 4.3x EV/S and 18x EV/EBITDA multiples. On a smaller scale, in March 2022 Netflix made a takeover bid for the Finnish company Next Games for a purchase price of EUR 65 million. Calculated on Next Games' 2021 revenue, this corresponded to an EV/S multipe of around 2.6x. Rovio could also be an attractive acquisition target for a larger player, and in this scenario the purchase price would probably be well above the current share price. However, we see the buyout card as a long-term option rather than as a particular driver of valuation.

The median EV/Sales multiples for 2022-2023 for Rovio's peer group of five listed mobile game companies are 1.2x-1.0x and the corresponding EV/EBIT multiples are 9x- 8x. Rovio is priced with a sales-based multiple of around 24-27% and EBIT multiples of 21-25% below the median of its peer group. We believe that the median multiples for the peer group are already low in absolute terms, and we see some upside potential in them once the gloomy sentiment in the mobile games market starts to improve. Thus, in our view, Rovio could already be priced closer to the peer group.

In the adjacent calculation, we have illustrated the potential of Rovio's stock over the next 12 months, if valuation multiples at the current level of the peer group or at the level of the company's historical median valuation were accepted for Rovio. Based on next year's earnings estimates and applying the EV/EBIT multiple, Rovio's share value would be EUR 7.2-7.9. With the sales-based multiple, Rovio's share would be worth ca. EUR 7.8. The average value of these two methods would be EUR 7.5-7.9.

**Rovio's historical sales-based valuation**




**Rovio's share value using peer multiples and the company's historical valuation**

| | Peer median | Historical median |
|---|---|---|
| EBIT 2023e | 41.0 | 41.0 |
| X valuation multiple | 9.2x | 10.6x |
| **EV** | **376** | **434** |
| Net cash 2023e | 173 | 173 |
| **Value of equity** | **549** | **607** |
| *Per share (EUR)* | *7.2* | *7.9* |
| | | |
| Revenue 2023e | 328 | 328 |
| X valuation multiple | 1.2x | 1.2x |
| **EV** | **397** | **397** |
| Net cash 2023e | 173 | 173 |
| **Value of equity** | **570** | **570** |
| *Per share (EUR)* | *7.8* | *7.8* |
| | | |
| ***Average (EUR)*** | ***7.5*** | ***7.9*** |

Source: Inderes, Bloomberg

# Valuation 3/3

## DCF model

The DCF value for equity for Rovio is EUR 630 million or EUR 8.3 per share. Also, in the light of the DCF model, Rovio's share valuation seems moderate, as the growth and profitability assumptions we use in the model are quite conservative.

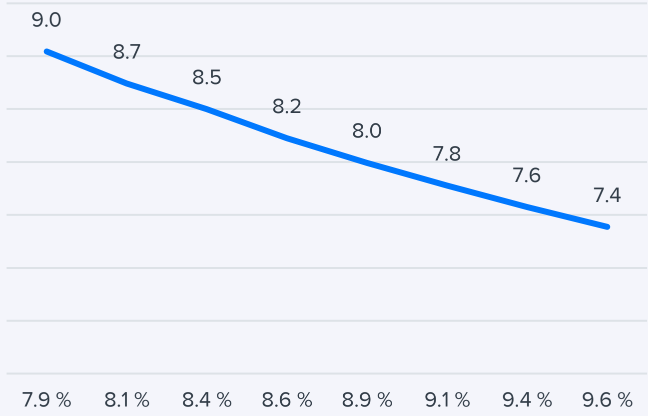
We have set weighted average cost of capital (WACC) in the model at 8.6%. In our view, the level is relatively low for a games company, but still justified given the low interest rate environment, Rovio's strong financial position and the company's stable stage of development. We have illustrated in the adjacent graph the sensitivity of the DCF model to changes in the yield curve.

We have discussed the underlying assumptions of the DCF model in the Estimates section. In the big picture, the model expects Rovio to grow steadily and calmly. In the model's terminal assumptions, we have set growth at 2% and the EBIT margin at 12%.

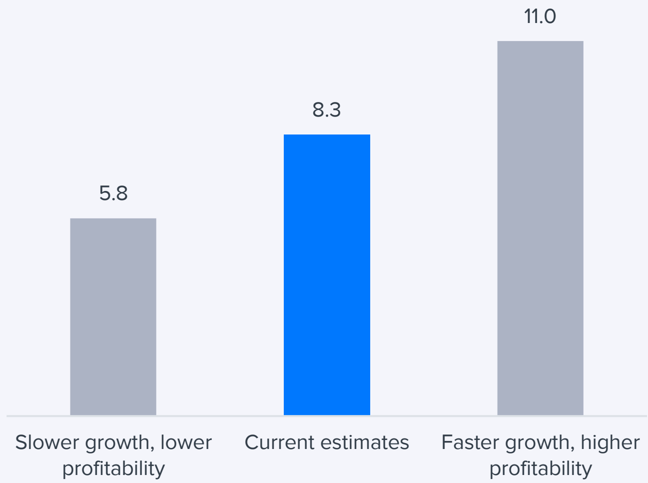
We have also illustrated on the right the sensitivity of the DCF model to growth and profitability assumptions in good and bad case scenarios. If we cut our current revenue estimates for 2023-2025 by around 10%, lower our long-term growth forecast to 0% and lower our profitability assumption to 10% from 2026 onwards, the model gives a value of around EUR 5.8 per share for Rovio. Rovio's share price is currently close to the value of this scenario, indicating that the stock is currently not loaded with much growth expectations.

Similarly, if the model assumes revenue in 2023-2025 to be around 10% higher than our forecasts, average growth in 2026-2030 to be 5% and profitability to be 15% in the long term, the model gives Rovio a value of EUR 11.0 per share.

**DCF value sensitivity to WACC**




**DCF value in different scenarios (EUR)**



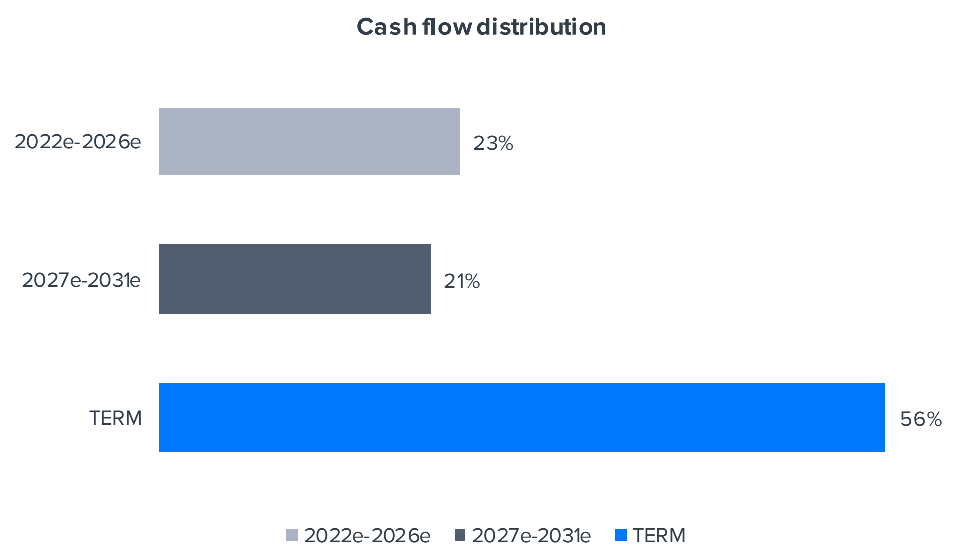

Source: Inderes

# DCF calculation

| DCF model | 2021 | 2022e | 2023e | 2024e | 2025e | 2026e | 2027e | 2028e | 2029e | 2030e | 2031e | TERM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EBIT (operating profit)** | **37.7** | **37.7** | **42.2** | **43.4** | **47.3** | **48.1** | **47.2** | **46.2** | **47.1** | **48.0** | **49.0** | |
| + Depreciation | 13.1 | 13.2 | 10.0 | 9.9 | 8.7 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.5 | |
| - Paid taxes | -7.5 | -9.3 | -9.3 | -9.5 | -10.4 | -10.6 | -10.4 | -10.2 | -10.4 | -10.6 | -10.8 | |
| - Tax, financial expenses | 0.6 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| + Tax, financial income | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| - Change in working capital | 0.2 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| **Operating cash flow** | **44.2** | **41.8** | **43.0** | **43.8** | **45.6** | **44.9** | **44.1** | **43.4** | **44.2** | **44.9** | **45.7** | |
| + Change in other long-term liabilities | 40.6 | -30.4 | -2.6 | -2.6 | -2.6 | -2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| - Gross CAPEX | -64.1 | -8.4 | -7.1 | -7.2 | -7.2 | -7.3 | -7.4 | -7.5 | -7.5 | -7.5 | -7.5 | |
| **Free operating cash flow** | **20.8** | **3.0** | **33.3** | **34.0** | **35.7** | **34.9** | **36.8** | **35.9** | **36.7** | **37.4** | **38.2** | |
| +/- Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| FCFF | 20.8 | 3.0 | 33.3 | 34.0 | 35.7 | 34.9 | 36.8 | 35.9 | 36.7 | 37.4 | 38.2 | 588 |
| **Discounted FCFF** | | **2.9** | **29.8** | **28.1** | **27.1** | **24.4** | **23.7** | **21.3** | **20.0** | **18.8** | **17.7** | **272** |
| Sum of FCFF present value | | 486 | 483 | 453 | 425 | 398 | 374 | 350 | 329 | 309 | 290 | 272 |
| **Enterprise value DCF** | | **486** | | | | | | | | | | |
| - Interesting bearing debt | | -7.9 | | | | | | | | | | |
| + Cash and cash equivalents | | 161 | | | | | | | | | | |
| -Minorities | | 0.0 | | | | | | | | | | |
| -Dividend/capital return | | -8.9 | | | | | | | | | | |
| **Equity value DCF** | | **630** | | | | | | | | | | |
| **Equity value DCF per share** | | **8.3** | | | | | | | | | | |

| Wacc | |
|---|---|
| Tax-% (WACC) | 20.0 % |
| Target debt ratio (D/(D+E) | 0.0 % |
| Cost of debt | 4.0 % |
| Equity Beta | 1.10 |
| Market risk premium | 4.75% |
| Liquidity premium | 1.40% |
| Risk free interest rate | 2.0 % |
| **Cost of equity** | **8.6 %** |
| **Weighted average cost of capital (WACC)** | **8.6 %** |

Source: Inderes



# Peer group valuation

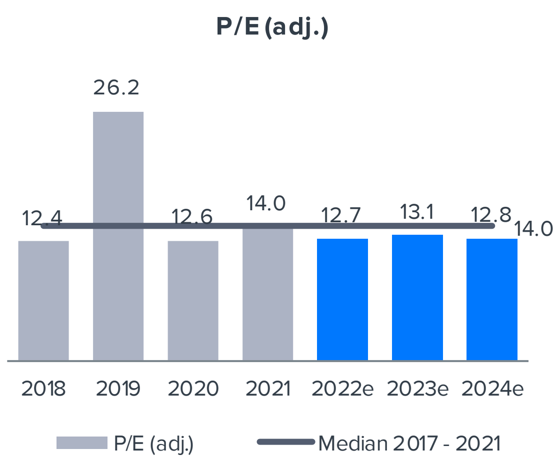
| Peer group valuation | Market cap | EV | EV/EBIT | | EV/EBITDA | | EV/S | | P/E | | Dividend yield-% | | P/B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Company** | **MEUR** | **MEUR** | **2022e** | **2023e** | **2022e** | **2023e** | **2022e** | **2023e** | **2022e** | **2023e** | **2022e** | **2023e** | **2022e** |
| G5 Entertainment | 136 | 115 | 7.5 | 4.8 | 4.0 | 3.0 | 0.9 | 0.9 | 10.0 | 6.2 | 3.8 | 4.4 | 2.5 |
| MAG Interactive | 45 | 40 | 15.9 | 12.3 | 5.2 | 4.7 | 1.2 | 1.0 | 23.2 | 18.7 | | | 1.3 |
| Stillfront | 1043 | 1350 | 9.2 | 7.8 | 5.7 | 5.0 | 2.0 | 1.9 | 7.8 | 6.9 | | | 0.9 |
| Playtika | 4193 | 5377 | 11.5 | 9.7 | 5.9 | 5.5 | 2.1 | 2.0 | 15.7 | 12.9 | | | |
| MTG | 1086 | 595 | 9.1 | 7.5 | 4.6 | 4.3 | 1.1 | 1.0 | 22.9 | 19.3 | | | 0.8 |
| **Rovio (Inderes)** | **430** | **282** | **6.9** | **6.1** | **5.5** | **5.0** | **0.9** | **0.8** | **12.7** | **13.1** | **2.1** | **2.1** | **2.0** |
| **Average** | | | **10.6** | **8.4** | **5.1** | **4.5** | **1.5** | **1.4** | **15.9** | **12.8** | **3.8** | **4.4** | **1.4** |
| **Median** | | | **9.2** | **7.8** | **5.2** | **4.7** | **1.2** | **1.0** | **15.7** | **12.9** | **3.8** | **4.4** | **1.1** |
| ***Diff-% to median*** | | | ***-25%*** | ***-21%*** | ***7%*** | ***6%*** | ***-27%*** | ***-24%*** | ***-19%*** | ***2%*** | ***-43%*** | ***-51%*** | ***82%*** |

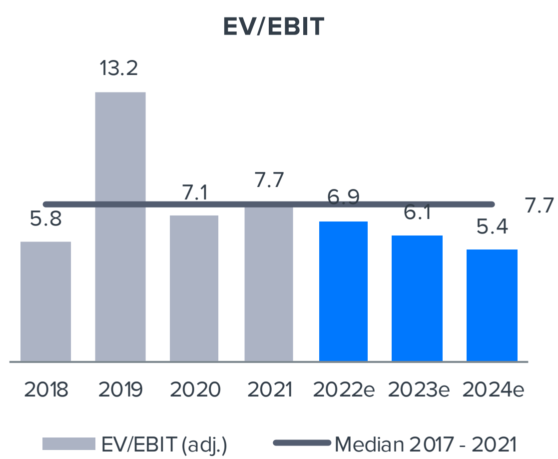
Source: Refinitiv / Inderes

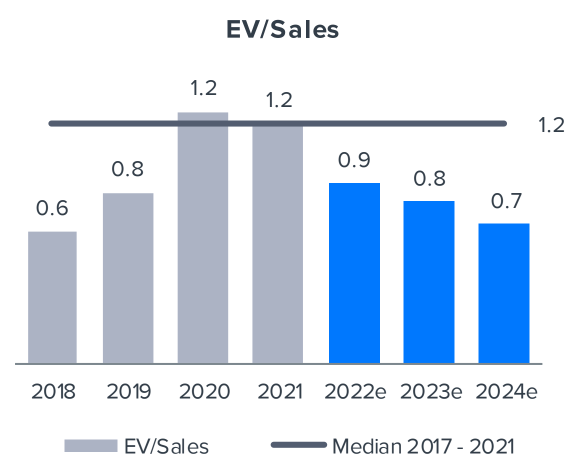
# Valuation table

| Valuation | 2017 | 2018 | 2019 | 2020 | 2021 | 2022e | 2023e | 2024e | 2025e |
|---|---|---|---|---|---|---|---|---|---|
| Share price | 9.03 | 3.82 | 4.42 | 6.31 | 6.58 | **5.64** | **5.64** | **5.64** | **5.64** |
| Number of shares, millions | 79.2 | 78.9 | 79.6 | 73.5 | 74.3 | **76.3** | **76.6** | **76.8** | **77.1** |
| Market cap | 715 | 301 | 352 | 464 | 489 | **430** | **432** | **433** | **434** |
| EV | 627 | 181 | 242 | 335 | 336 | **282** | **259** | **236** | **211** |
| P/E (adj.) | 29.5 | 12.4 | 26.2 | 12.6 | 14.0 | **12.7** | **13.1** | **12.8** | **11.8** |
| P/E | 34.7 | 12.3 | 26.6 | 14.4 | 16.2 | **14.1** | **13.1** | **12.8** | **11.8** |
| P/FCF | 14.6 | 8.2 | neg. | 8.6 | 23.6 | **>100** | **13.0** | **12.7** | **12.2** |
| P/B | 5.1 | 1.9 | 2.1 | 2.8 | 2.5 | **2.0** | **1.8** | **1.6** | **1.5** |
| P/S | 2.4 | 1.1 | 1.2 | 1.7 | 1.7 | **1.3** | **1.3** | **1.2** | **1.2** |
| EV/Sales | 2.1 | 0.6 | 0.8 | 1.2 | 1.2 | **0.9** | **0.8** | **0.7** | **0.6** |
| EV/EBITDA | 10.4 | 3.8 | 7.5 | 5.6 | 6.6 | **5.5** | **5.0** | **4.4** | **3.8** |
| EV/EBIT (adj.) | 17.5 | 5.8 | 13.2 | 7.1 | 7.7 | **6.9** | **6.1** | **5.4** | **4.5** |
| Payout ratio (%) | 34.6 % | 28.9 % | 54.2 % | 27.5 % | 29.6 % | **30.0 %** | **28.0 %** | **27.3 %** | **25.1 %** |
| Dividend yield-% | 1.0 % | 2.4 % | 2.0 % | 1.9 % | 1.8 % | **2.1 %** | **2.1 %** | **2.1 %** | **2.1 %** |

Source: Inderes



# Balance sheet

| Assets | 2020 | 2021 | 2022e | 2023e | 2024e |
|---|---|---|---|---|---|
| **Non-current assets** | **38.6** | **90.2** | **85.4** | **82.4** | **79.7** |
| Goodwill | 0.0 | 37.5 | 37.5 | 37.5 | 37.5 |
| Intangible assets | 18.7 | 24.8 | 20.2 | 17.2 | 14.6 |
| Tangible assets | 9.7 | 8.1 | 6.5 | 6.6 | 6.4 |
| Associated companies | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other investments | 2.0 | 8.3 | 9.7 | 9.7 | 9.7 |
| Other non-current assets | 0.7 | 3.4 | 3.4 | 3.4 | 3.4 |
| Deferred tax assets | 7.5 | 8.1 | 8.1 | 8.1 | 8.1 |
| **Current assets** | **170** | **197** | **192** | **216** | **243** |
| Inventories | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other current assets | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Receivables | 30.9 | 36.0 | 37.7 | 38.7 | 40.9 |
| Cash and equivalents | 139 | 161 | 155 | 178 | 202 |
| **Balance sheet total** | **208** | **287** | **278** | **299** | **323** |

Source: Inderes

| Liabilities & equity | 2020 | 2021 | 2022e | 2023e | 2024e |
|---|---|---|---|---|---|
| **Equity** | **165** | **198** | **219** | **243** | **267** |
| Share capital | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Retained earnings | 161 | 185 | 206 | 230 | 254 |
| Hybrid bonds | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Revaluation reserve | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other equity | 4.1 | 12.2 | 12.2 | 12.2 | 12.2 |
| Minorities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Non-current liabilities** | **7.7** | **48.7** | **19.2** | **15.6** | **12.9** |
| Deferred tax liabilities | 0.0 | 3.3 | 3.3 | 3.3 | 3.3 |
| Provisions | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 |
| Long term debt | 7.0 | 4.1 | 5.0 | 4.0 | 4.0 |
| Convertibles | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other long term liabilities | 0.0 | 41.0 | 10.6 | 7.9 | 5.3 |
| **Current liabilities** | **35.4** | **40.8** | **39.4** | **40.4** | **42.6** |
| Short term debt | 3.6 | 3.8 | 1.0 | 1.0 | 1.0 |
| Payables | 31.7 | 37.0 | 38.4 | 39.4 | 41.6 |
| Other current liabilities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Balance sheet total** | **208** | **287** | **278** | **299** | **323** |

# Summary

| Income statement | 2019 | 2020 | 2021 | 2022e | 2023e |
|---|---|---|---|---|---|
| Revenue | 289.1 | 272.2 | 286.2 | **319.9** | **328.2** |
| EBITDA | 32.3 | 60.0 | 50.8 | **50.9** | **52.2** |
| EBIT | 18.1 | 42.5 | 37.7 | **37.7** | **42.2** |
| PTP | 17.7 | 40.7 | 40.3 | **39.8** | **42.1** |
| Net Income | 13.2 | 32.1 | 30.1 | **30.5** | **32.9** |
| Extraordinary items | -0.3 | -4.7 | -6.0 | **-3.2** | **0.0** |

| Balance sheet | 2019 | 2020 | 2021 | 2022e | 2023e |
|---|---|---|---|---|---|
| Balance sheet total | 217.3 | 208.5 | 287.0 | **277.7** | **298.7** |
| Equity capital | 168.0 | 165.4 | 197.5 | **219.1** | **242.8** |
| Goodwill | 0.0 | 0.0 | 37.5 | **37.5** | **37.5** |
| Net debt | -110.4 | -128.3 | -152.9 | **-148.5** | **-172.6** |

| Cash flow | 2019 | 2020 | 2021 | 2022e | 2023e |
|---|---|---|---|---|---|
| EBITDA | 32.3 | 60.0 | 50.8 | **50.9** | **52.2** |
| Change in working capital | -18.2 | 13.8 | 0.2 | **-0.3** | **0.0** |
| Operating cash flow | 8.8 | 62.9 | 44.2 | **41.8** | **43.0** |
| CAPEX | -13.1 | -9.3 | -64.1 | **-8.4** | **-7.1** |
| Free cash flow | -4.6 | 54.0 | 20.8 | **3.0** | **33.3** |

| Valuation multiples | 2019 | 2020 | 2021 | 2022e | 2023e |
|---|---|---|---|---|---|
| EV/S | 0.8 | 1.2 | 1.2 | **0.9** | **0.8** |
| EV/EBITDA (adj.) | 7.5 | 5.6 | 6.6 | **5.5** | **5.0** |
| EV/EBIT (adj.) | 13.2 | 7.1 | 7.7 | **6.9** | **6.1** |
| P/E (adj.) | 26.2 | 12.6 | 14.0 | **12.7** | **13.1** |
| P/B | 2.1 | 2.8 | 2.5 | **2.0** | **1.8** |
| Dividend-% | 2.0 % | 1.9 % | 1.8 % | **2.1 %** | **2.1 %** |

Source: Inderes

| Per share data | 2019 | 2020 | 2021 | 2022e | 2023e |
|---|---|---|---|---|---|
| EPS (reported) | 0.17 | 0.44 | 0.41 | **0.40** | **0.43** |
| EPS (adj.) | 0.17 | 0.50 | 0.47 | **0.44** | **0.43** |
| OCF / share | 0.11 | 0.86 | 0.59 | **0.55** | **0.56** |
| FCF / share | -0.06 | 0.74 | 0.28 | **0.04** | **0.43** |
| Book value / share | 2.11 | 2.25 | 2.66 | **2.87** | **3.17** |
| Dividend / share | 0.09 | 0.12 | 0.12 | **0.12** | **0.12** |

| Growth and profitability | 2019 | 2020 | 2021 | 2022e | 2023e |
|---|---|---|---|---|---|
| Revenue growth-% | 3% | -6% | 5% | **12%** | **3%** |
| EBITDA growth-% | -32% | 85% | -15% | **0%** | **3%** |
| EBIT (adj.) growth-% | -41% | 157% | -7% | **-6%** | **3%** |
| EPS (adj.) growth-% | -45% | 196% | -6% | **-6%** | **-3%** |
| EBITDA-% | 11.2 % | 22.0 % | 17.8 % | **15.9 %** | **15.9 %** |
| EBIT (adj.)-% | 6.3 % | 17.3 % | 15.3 % | **12.8 %** | **12.9 %** |
| EBIT-% | 6.3 % | 15.6 % | 13.2 % | **11.8 %** | **12.9 %** |
| ROE-% | 8.1 % | 19.3 % | 16.6 % | **14.6 %** | **14.2 %** |
| ROI-% | 10.5 % | 23.7 % | 19.8 % | **17.5 %** | **17.9 %** |
| Equity ratio | 80.5 % | 82.3 % | 70.8 % | **81.2 %** | **83.5 %** |
| Gearing | -65.7 % | -77.6 % | -77.4 % | **-67.8 %** | **-71.1 %** |

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Buy The 12-month risk-adjusted expected shareholder return of the share is very attractive

Accumulate The 12-month risk-adjusted expected shareholder return of the share is attractive

Reduce The 12-month risk-adjusted expected shareholder return of the share is weak

Sell The 12-month risk-adjusted expected shareholder return of the share is very weak

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## Recommendation history (>12 mo)

| Date | Recommendation | Target price | Share price |
|---|---|---|---|
| 3/1/2021 | Buy | 7.50 € | 6.22 € |
| 4/30/2021 | Accumulate | 8.00 € | 6.76 € |
| 5/18/2021 | Buy | 8.00 € | 6.34 € |
| 8/13/2021 | Buy | 8.00 € | 6.16 € |
| 9/27/2021 | Buy | 8.00 € | 6.12 € |
| 10/29/2021 | Accumulate | 8.00 € | 7.05 € |
| 2/14/2022 | Accumulate | 8.60 € | 7.75 € |
| 5/2/2022 | Accumulate | 9.50 € | 8.71 € |
| 7/18/2022 | Buy | 8.50 € | 6.14 € |
| 8/12/2022 | Accumulate | 7.50 € | 6.50 € |
| 9/6/2022 | Buy | 7.50 € | 5.64 € |

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