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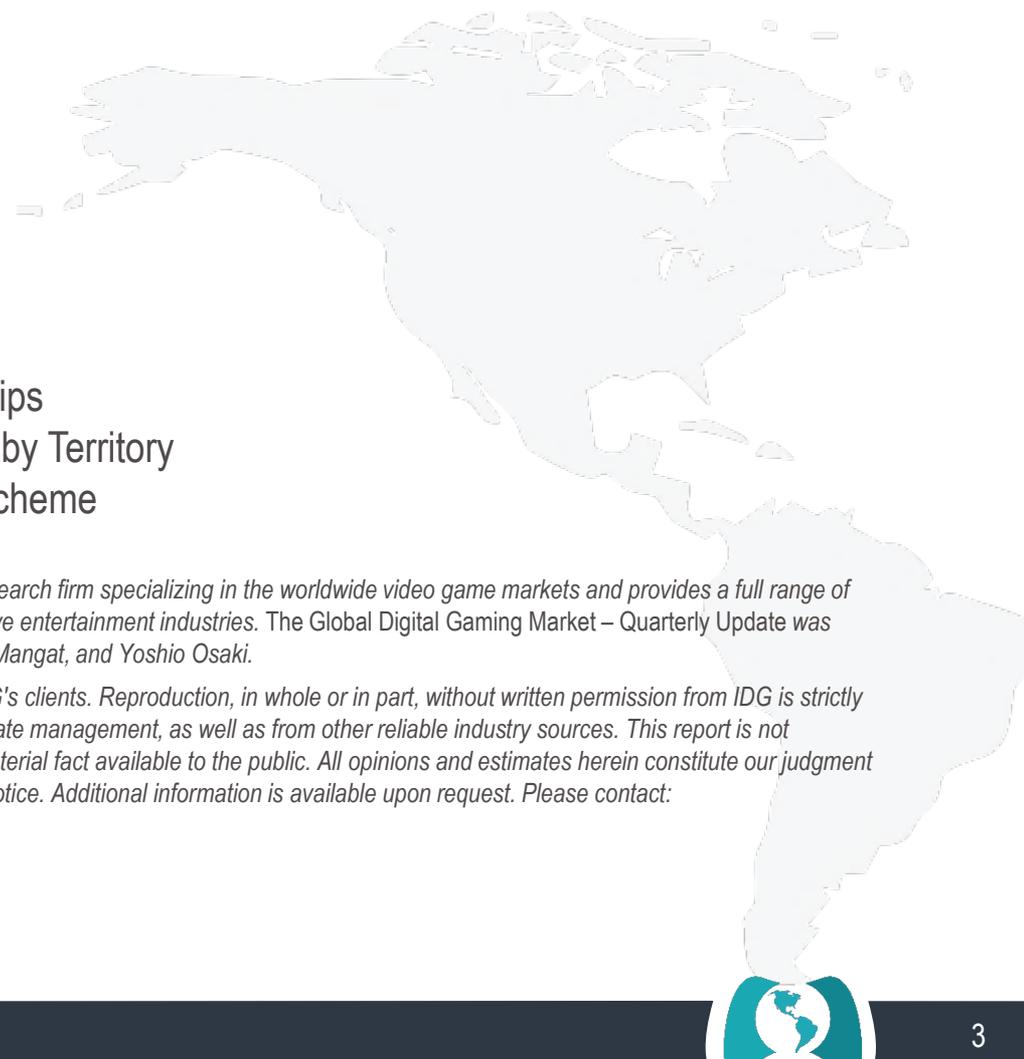
THE GLOBAL DIGITAL GAMING MARKET QUARTERLY UPDATE

November 7, 2017



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With over 30 years of industry expertise, IDG Consulting is the premier research firm specializing in the worldwide video game markets and provides a full range of consulting and advisory services to the consumer electronics and interactive entertainment industries. The Global Digital Gaming Market – Quarterly Update was written and compiled by IDG's team: Emilie Avera, Christina Kei, Tejinder Mangat, and Yoshio Osaki.

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METHODOLOGY

- In this report, IDG covers digital games sales that are not covered by the main retail tracking services
- All digital gaming revenue is categorized into one of the following three platforms: mobile devices (including tablets), gaming consoles, or PCs
- Europe encompasses all countries in Western, Central and Eastern Europe
- Asia only includes China, Hong Kong, South Korea and Japan
- Rest of World territories include Canada, Latin America, Southeast Asia, Africa, India, Middle East, Australia/ New Zealand
- In developing its digital gaming forecast, IDG leverages and triangulates among as many primary resources as possible, including company earnings reports and industry channel checks with key stakeholders for market intelligence across publishers, platform holders, manufacturers, retailers and other contacts. Secondly, IDG considers information available from digital data tracking services as well as other analyst research for validation purposes.
- Forecast figures in charts have been rounded to the nearest \$10M for numbers >\$10M and to the nearest \$1M for figures <\$10M

IDG'S DIGITAL CATEGORIES

MOBILE

Gaming revenues derived from mobile phones, tablets, and other mobile devices



iOS

Android

Other OS

Feature phones

DIGITAL CONSOLE

Gaming revenues derived from console and handheld online networks



MSFT XBL

Sony PSN

Nintendo Network

DIGITAL PC

Gaming revenues for PC-based games that do not include a retail-based transaction



RPG

MOBA

FPS

Casual

Other



EXECUTIVE SUMMARY

- IDG's global forecast for digital gaming revenue in 2017 was raised across all three segments—mobile, console and PC
 - While there were pockets of weakness here and there, overall, all three digital gaming categories have showed stronger-than-expected performances in the third quarter of the year
 - Sony's PSN revenue, battle royale PC titles and strong growth in mobile gaming in Europe and Rest of World are a few of the drivers behind Q3's growth and IDG's upgraded forecast numbers
 - The aforementioned pockets of weakness include tablet gaming and Nintendo's digital console revenues, which are not growing as strongly as previously expected
- In total, global digital gaming revenue is expected to grow to \$112 billion in 2017, with 56% of revenue coming from Mobile, 32% from PC and 12% from Console
 - Asia accounts for 48% of digital gaming revenue, US for 23%, Europe for 17% and Rest of World for 12%
- By 2021E, IDG forecasts the worldwide digital games market will be valued at \$156 billion, representing a 4-year CAGR of 9%





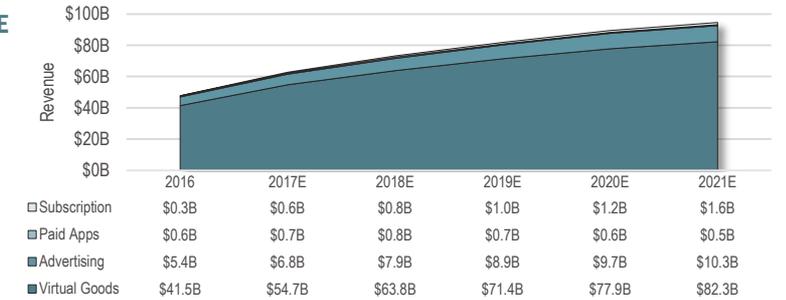
MOBILE

MOBILE SEGMENT SNAPSHOT

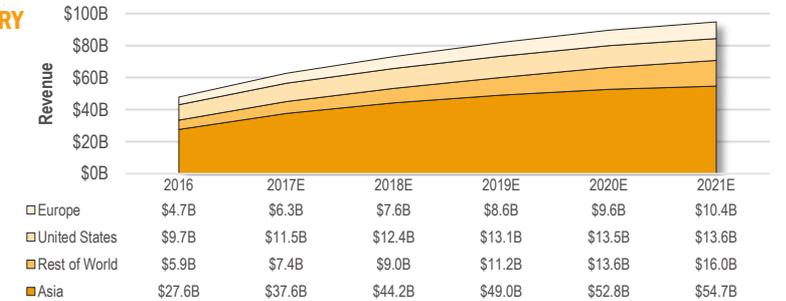
PLATFORM



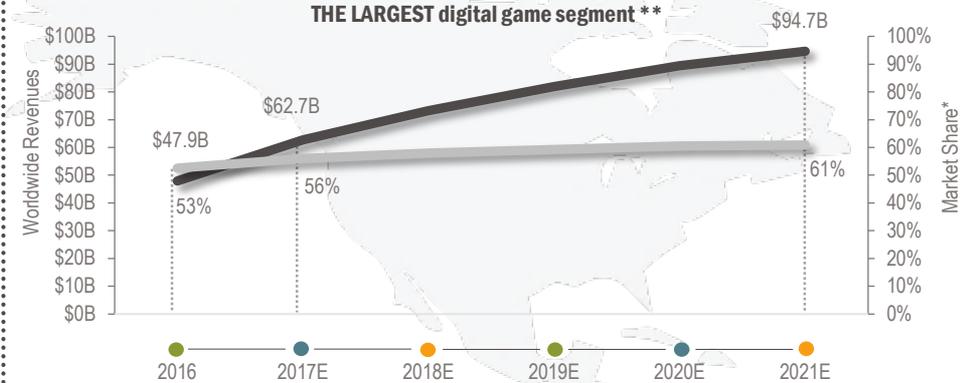
REVENUE STREAM



TERRITORY



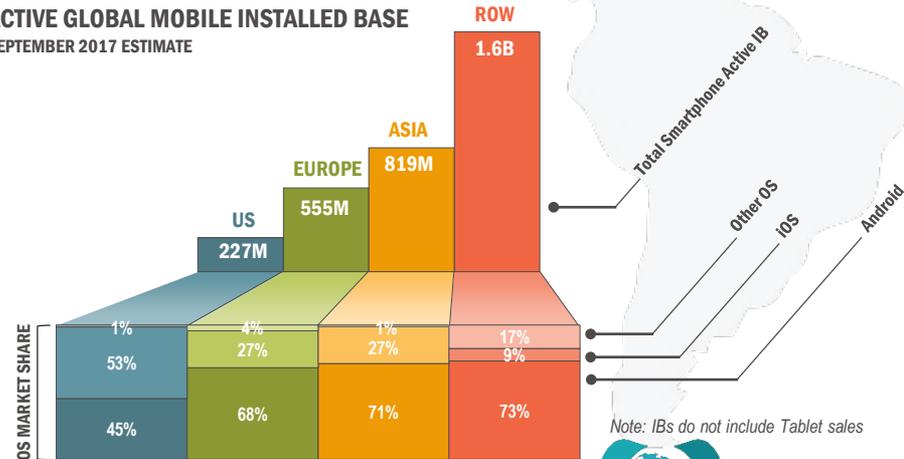
THE BIGGER PICTURE



* Mobile games as percentage of worldwide digital game revenues

** Based on 2017 worldwide revenue estimates

ACTIVE GLOBAL MOBILE INSTALLED BASE SEPTEMBER 2017 ESTIMATE



SUMMARY OF FORECAST – MOBILE

- IDG once again raised its 2017 forecast for the worldwide mobile gaming market due to continued outperformance in many territories
 - Europe and Rest of World showed the most upside, but Asia also appeared to be tracking ahead of IDG's forecast
 - iPad games revenue in the US is one of the only subcategories of IDG's mobile forecast that showed negative growth trends in 2017
 - IDG anticipates that 2018 may be Asia's last year of growing its share of global mobile gaming revenue, peaking at 60% market share, as Europe and Rest of World begin to pick up the pace in 2019 and beyond
- Overall, IDG expects global mobile gaming revenue to generate \$62.7 billion in 2017, growing to \$94.7 billion in 2021, representing a 4-year CAGR of 11%



MOBILE AR IS A BIG BUT TRANSITIONAL OPPORTUNITY

- In recent quarters, mobile AR has emerged to the forefront as a key potential driver for gaming and entertainment
- During these early stages, while VR continues to grow slowly due to high price points and a lack of content, there has been renewed enthusiasm around the prospects for mobile AR, fueled primarily by recent announcements from Apple and Google
 - Apple's ARKit and Google's ARCore demonstrate that augmented reality on mobile handsets are a high strategic priority for the two companies and developers who work in iOS and Android
 - Although it is still debatable whether gaming will be the main killer app on mobile AR, it is becoming increasingly clear that mobile AR will likely integrate more seamlessly into daily life than VR



MOBILE AR - A BIG BUT TRANSITIONAL OPPORTUNITY (CONT'D)

- Despite this enthusiasm and early-stage adoption, IDG believes there are several key trends that require further analysis before determining the true growth impact of mobile AR
 - While both Apple and Google are investing heavily in enabling AR game overlays (digital objects/items that are transposed over the physical environment using the smartphone), IDG still believes that the greater potential for mobile AR will be in general improvements to daily life in navigating the physical world with the power of online information at the user's fingertips
 - Mobile AR, while promising due to the high potential installed base (e.g. Apple's mobile AR-enabled smartphone installed base will likely reach 200-250 million by year-end 2017), might merely be a means to a greater end
 - ▲ AR games and other experiences are still clunky to use, especially for users who need to hold up the smartphone while visualizing AR objects. This is a critical friction point that the smartphone form factor does not alleviate.
 - ▲ By contrast, IDG believes that the ultimate end goal for AR hardware and software developers will be to leverage glass/spectacle-type form factors that are easier and more intuitive to use. While Google Glass 1.0 had a lot of issues, it did provide a template on how AR would ultimately be used at a mass-market level in the future.
 - ▲ Interim steps, such as the launch of Google Lens computer vision technology for the Pixel smartphone, are helping the AR community to move more in a direction of using AR beyond the *Pokémon GO*-style mechanics that have been popular in the past

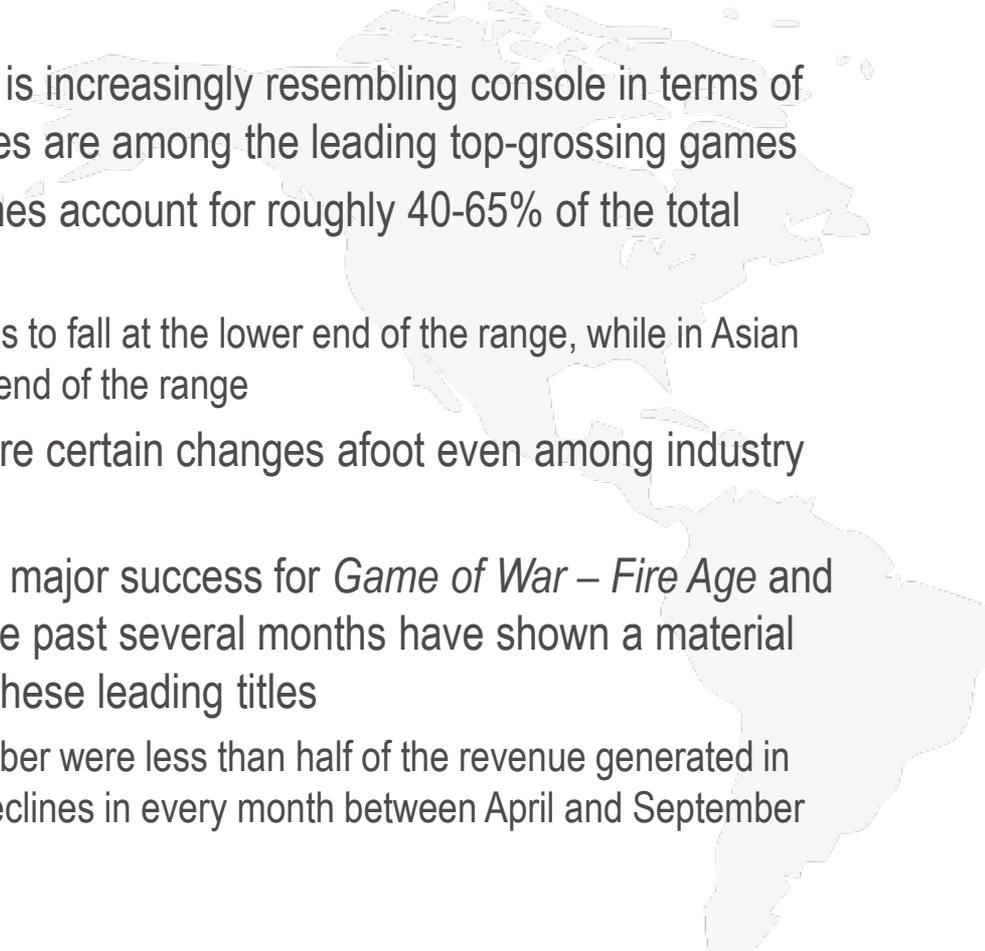


MOBILE AR - A BIG BUT TRANSITIONAL OPPORTUNITY (CONT'D)

- Outside of Apple and Google, several game franchise heavy hitters are also exploring the mobile AR world including Riot Games and LEGO
 - Supported by Google's ARCore, Riot released a new *League of Legends* AR map, leveraging the GRAB Augmented Reality Table-Top Platform from Grab Games
 - LEGO also released a prototype version of an augmented reality-based LEGO model builder
- Over time, IDG remains optimistic on the overall prospects for AR, and while mobile AR might be a mid-term step in the evolution of AR, it will still be a potentially lucrative one for hardware and software companies alike



REVERSALS OF FORTUNE IN THE PUBLISHER RANKS



- In some ways, the mobile gaming market is increasingly resembling console in terms of how top-heavy the distribution for revenues are among the leading top-grossing games
- At the macro level, the top 25 mobile games account for roughly 40-65% of the total market in most major territories
 - In Western markets, the top 25 share tends to fall at the lower end of the range, while in Asian markets, the top 25 share is at the higher end of the range
- But at the publisher-specific level, there are certain changes afoot even among industry incumbents
- While MZ has enjoyed top-tier status with major success for *Game of War – Fire Age* and *Mobile Strike* in the past several years, the past several months have shown a material sequential decline in revenue for both of these leading titles
 - In fact, revenue for both games in September were less than half of the revenue generated in April, with continued month-over-month declines in every month between April and September along the way



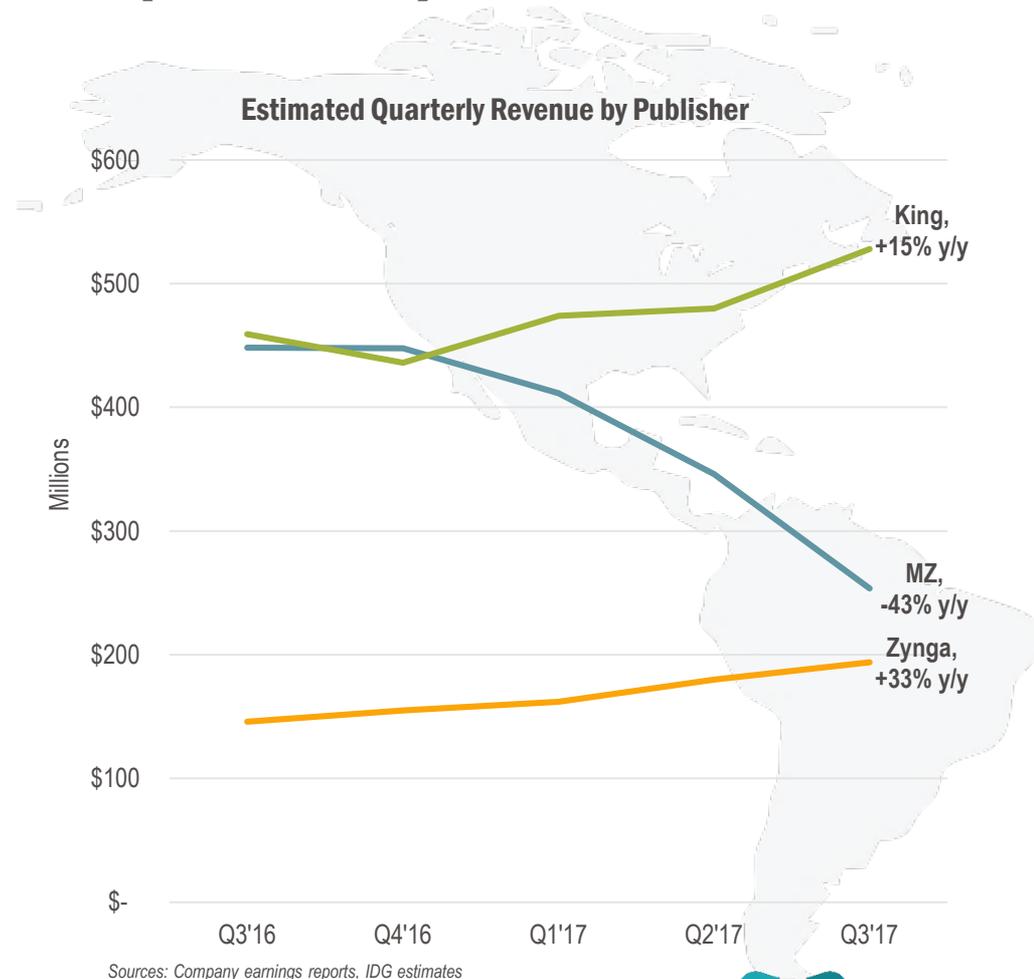
REVERSALS OF FORTUNE (CONT'D)

- By contrast, while MZ has struggled in recent months, two previously-struggling mobile publishers—King and Zynga—have experienced a resurgence of late, with increased content updates and live operations capabilities helping to reverse the negative tide
- After some growth slowdown in recent years, King's *Candy Crush Saga* is performing better in recent months. Instead of putting out new levels every 2 weeks, King is launching new content levels every week.
 - As a result, revenue is up 20-25% versus the past 2 quarters for mobile specifically, where revenue growth was much flatter in earlier quarters
 - King already has a massive built-in audience. Even though this audience is much more casual by nature, they have become more familiar with a live operations model, and King has improved significantly in terms of providing this player base with more content at a more frequent clip to keep the audience engaged and monetized.

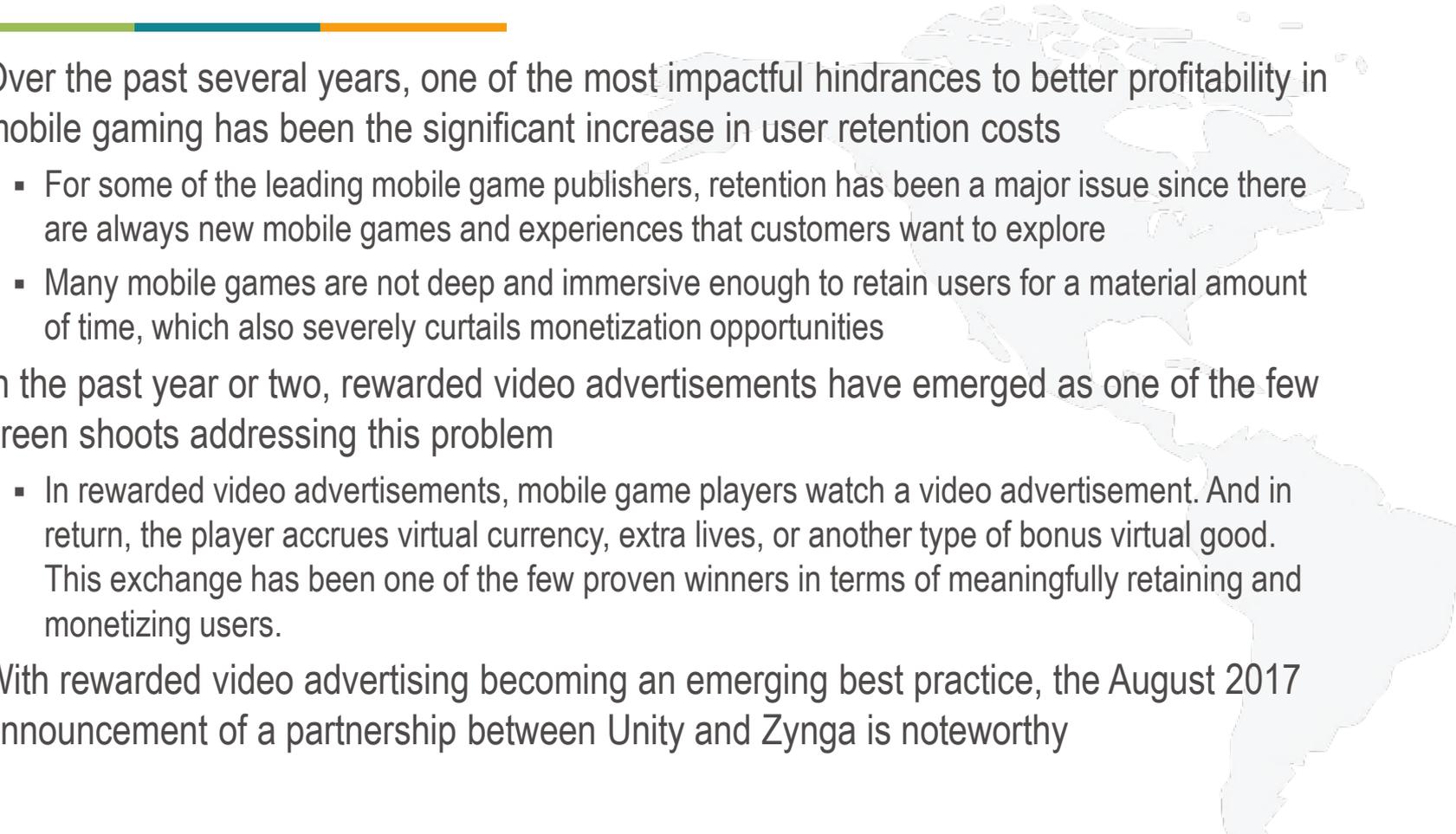


REVERSALS OF FORTUNE (CONT'D)

- Zynga is another mobile publisher that has begun to come out from under the doldrums of CEO turnover, major portfolio pivots, and the inability to monetize on mobile as well as they had in their desktop social/Facebook-infused heyday
 - Similar to King, Zynga is leveraging more live operations best practices, which is favorably appealing to their audience
 - For most of Zynga's core SKUs across the casino and poker genres, among others, Zynga has been monetizing more effectively of late



REWARDED VIDEO ADS – A NEW RETENTION HOPE?



- Over the past several years, one of the most impactful hindrances to better profitability in mobile gaming has been the significant increase in user retention costs
 - For some of the leading mobile game publishers, retention has been a major issue since there are always new mobile games and experiences that customers want to explore
 - Many mobile games are not deep and immersive enough to retain users for a material amount of time, which also severely curtails monetization opportunities
- In the past year or two, rewarded video advertisements have emerged as one of the few green shoots addressing this problem
 - In rewarded video advertisements, mobile game players watch a video advertisement. And in return, the player accrues virtual currency, extra lives, or another type of bonus virtual good. This exchange has been one of the few proven winners in terms of meaningfully retaining and monetizing users.
- With rewarded video advertising becoming an emerging best practice, the August 2017 announcement of a partnership between Unity and Zynga is noteworthy



REWARDED VIDEO ADS – UNITY + ZYNGA PARTNERSHIP

- In August, Unity announced a partnership with Zynga to become Zynga's exclusive provider of mobile game rewarded advertisements
- In this arrangement, Zynga will leverage Unity's Unified Auction platform for ad buying
- A recent Unity study indicated that 62% of developers claimed that rewarded ads boosted player retention
- Not only can rewarded video ads help to boost retention, but this can provide mobile game publishers with a new revenue stream to diversify beyond in-app game purchases
- Beyond Zynga, it is likely that King and other casual-focused mobile game publishers will increasingly leverage this new business model, especially since conversion rates on monetization via in-app purchases are generally lower than for mid-core titles in the mold of *Clash of Clans*



MOBILE PAYMENTS ARE A NEW BATTLEGROUND

- In IDG's view, one of the most important battlegrounds in the mobile arena revolves around payments
- Most of the leading technology companies, including Apple, Google, Tencent, and Alibaba, among others, are vying for supremacy in this nascent growth area
- Although mobile payments are just entering the mainstream in the US now, the mobile payments market in international territories such as China has been a material growth driver for several years
- One of the primary reasons for this discrepancy is that in many emerging markets, a wide swath of consumers do not have credit cards or debit cards. At the same time, many of these same consumers indeed have mobile phones.
- As a result of such trends, major platform companies such as Apple have had to cater to local payment preferences



MOBILE PAYMENTS (CONT'D)

- While Apple Pay and Android Pay (from Google) are considered two of the earliest entrants in the Western mobile payment space, Chinese incumbents such as Alibaba's Alipay and Tencent's WeChat Pay are much bigger players in Asia
- Despite multiple promotions, discounts and rewards to incentivize Chinese mobile users to leverage Apple Pay, Apple Pay has yet to gain meaningful traction in China. As a result, Apple recently enabled a new feature in which payments could be accepted using Tencent's WeChat Pay service.
- IDG believes that this is a leading indicator of a broader long-term trend. Even when a company such as Apple or Google has worldwide penetration via hardware, software and services, ultimately the payments side of the equation must capitulate to local consumer preferences.



MOBILE PAYMENTS (CONT'D)

- In this key area, China is several years ahead of the rest of the world
- Other emerging territories, such as India, are increasingly looking to China for leadership in the mobile payments realm
- For example, Paytm, India's largest mobile payment app, not only partners with Alibaba as one of its primary investors, but also leverages Alibaba for best practices in the following areas:
 - Improvements to user experience and user interface
 - Developing ancillary products to boost user engagement
 - Tactics through which to scale its user base
- Although cryptocurrency, ICOs, and the blockchain economy are grabbing a lot of headlines, with the promise of democratizing investing and the way in which currencies are managed and manipulated, mobile payments are an underestimated but equally valuable area that could revolutionize commerce, especially in emerging markets, in the years to come



Q3'17 NEWS – MOBILE

- Following criticism in the People's Daily—a Chinese communist party news outlet—that the mobile hit title *Honor of Kings* was too addictive, Tencent introduced gameplay time limits for younger players (July)
- Japanese mobile developer GREE closed all of its Western studios with the goal of refocusing its efforts on the Japanese market and localizing strongly performing Japanese titles for international markets, rather than creating Western-specific titles (July)
- South Korean mobile messaging company Line established a mobile game publishing division focused on midcore titles (July)
- In the wake of declining market share and increased Chinese government oversight, Apple announced that Isabel Ge Mahe would be taking on the role of VP and managing director of Greater China (July)
- Mobile developer DeNA reported that 10% of its staff—100 people—were working on Nintendo mobile titles, including the recently released *Animal Crossing: Pocket Camp* (July)
- In an effort to make inroads into the Western market, Japanese publisher GungHo partnered with Washington-based developer Signal Studios to release a mobile game with global appeal (August)



Q3'17 NEWS – MOBILE (CONT'D)

- Zynga soft-launched a localized match-3 mobile title for the Indian market titled *Rangoli Rekha: Color Match* (August)
- Mobile and PC chat app Discord announced it would be adding video chat and screen-sharing features to its services, putting it on par with other established apps like Skype or Facebook Messenger (August)
- GameMine, a mobile gaming subscription service, announced a partnership with five mobile carriers in Egypt, Italy and Spain to bring direct-carrier billing to users in those territories (August)
- Inc. Magazine named Skillz, a mobile esports platform company, the fastest growing company in the US, with revenues increasing over 50,000% in the past three years (August)
- Following the cancellation of its *Car Town Racing* title, Glu Mobile closed its studio in Long Beach and laid off 46 employees in Long Beach and San Francisco (August)
- In an effort to compete with Apple's ARKit, Google released a software development kit for Android AR experiences called ARCore. Clay Bavor, Google's VP of AR and VR also announced that the company's goal for ARCore is to bring AR capabilities to 100 million Android phones within the next few months. (August)



Q3'17 NEWS – MOBILE (CONT'D)

- The iOS App Store in China started supporting payments made via WeChat Pay (August)
- Microsoft launched its Mixer Create mobile app, which allows users to livestream their gameplay for mobile games. Users can also now co-stream mobile gameplay with up to three users on multiple platforms including mobile, PC and Xbox One. Chat and vlogging features were also added. (September)
- Apple removed the App Store (for mobile apps) from its iTunes desktop app in order to tighten up its digital marketplaces (September)
- Apple announced several new mobile products including the iPhone 8/8 Plus, as well as the iPhone X (starting at \$999), which features improved cameras for facial recognition applications and an OLED screen—all three phones will support ARKit applications. Apple also revealed a new Apple Watch Series 3, which will support cellular service. (September)
- Amazon announced that it would be hosting an eSports Mobile Masters event in Las Vegas on October 14th and 15th, featuring titles like *Vainglory*, *Critical Ops* and *World of Tanks Blitz*. (September)
- Google unveiled a new mobile payments app for the Indian market, Tez, as the company continues to push into the market (September)



Q3'17 NEWS – MOBILE (CONT'D)

- App Annie revealed that they would start tracking usage data for apps and games on China's various Android app stores, although it is unclear if the company will be gathering revenue estimates (September)
- Apple added new sections to the iOS App Store dedicated to augmented reality games and apps (September)
- In efforts to target the Western anime audience, NetEase announced that it would be releasing its popular anime-style mobile RPG title, *Onmyoji*, in the US and Canada before the end of the year, with only text localization in English rather than full localization with English voice actors (September)
- Warner Bros. launched a F2P mobile game tie-in for *Middle-earth: Shadow of War* and will feature the series' acclaimed Nemesis system whereby enemies are procedurally generated as gamers advance in the game (September)
- Following the company's acquisition of smartphone startup Nextbit, Razer announced an Android smartphone geared towards mobile gamers due out in November for the US and Europe (November)



IOS TOP GAMES & PUBLISHERS – Q3'17

Global Top Games

Title	Publisher	Release
<i>Honor of Kings</i>	Tencent	Nov. 2015
<i>Fantasy Westward Journey</i>	Netease	May 2015
<i>Fate/Grand Order</i>	Aniplex	Aug. 2015
<i>Monster Strike</i>	Mixi	Aug. 2013
<i>The Demi-Gods and Semi-Devils Mobile</i>	Tencent	May 2017
<i>Candy Crush Saga</i>	King	Apr. 2012
<i>Lineage II: Revolution</i>	Netmarble	Dec. 2016

Source: AppAnnie

Top games are based on estimates of overall revenue generated from paid downloads and/or virtual good purchases combined

US Top Games

Title	Publisher	Release
<i>Candy Crush Saga</i>	King	Apr. 2012
<i>Clash Royale</i>	Supercell	Mar. 2016
<i>Clash of Clans</i>	Supercell	Aug. 2012

Japan Top Games

Title	Publisher	Release
<i>Fate/Grand Order</i>	Aniplex	Aug. 2015
<i>Monster Strike</i>	Mixi	Aug. 2013
<i>Puzzle & Dragons</i>	GungHo	Nov. 2012

China Top Games

Title	Publisher	Release
<i>Honor of Kings</i>	Tencent	Nov. 2015
<i>Fantasy Westward Journey</i>	Netease	May 2015
<i>The Demi-Gods and Semi-Devils Mobile</i>	Tencent	May 2017



GOOGLE PLAY TOP GAMES & PUBLISHERS – Q3'17

Global Top Games

Title	Publisher	Release
<i>Lineage M</i>	NCsoft	Jun. 2017
<i>Monster Strike</i>	Mixi	Dec. 2013
<i>Fate/Grand Order</i>	Aniplex	Jul. 2015
<i>Lineage II: Revolution</i>	Netmarble	Dec. 2016
<i>Candy Crush Saga</i>	King	Nov. 2012
<i>Pokémon GO</i>	Niantic	Jul. 2016
<i>Clash Royale</i>	Supercell	Mar. 2016

US Top Games

Title	Publisher	Release
<i>Candy Crush Saga</i>	King	Nov. 2012
<i>Candy Crush Soda Saga</i>	King	
<i>Clash of Clans</i>	Supercell	Sep. 2013

Japan Top Games

Title	Publisher	Release
<i>Monster Strike</i>	Mixi	Dec. 2013
<i>Fate/Grand Order</i>	Aniplex	Jul. 2015
<i>Puzzle & Dragons</i>	GungHo Online Ent.	Sep. 2012

South Korea Top Games

Title	Publisher	Release
<i>Lineage M</i>	NCsoft	Jun. 2017
<i>Lineage II: Revolution</i>	Netmarble	Dec. 2016
<i>Girl's Frontline</i>	Long Cheng	Jan. 2017

Source: AppAnnie

Top games are based on estimates of overall revenue generated from paid downloads and/or virtual good purchases combined





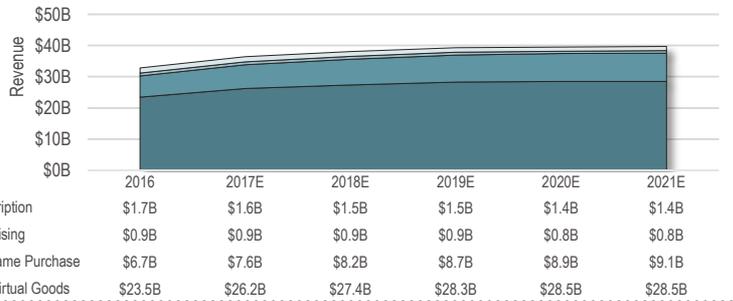
DIGITAL PC

DIGITAL PC SEGMENT SNAPSHOT

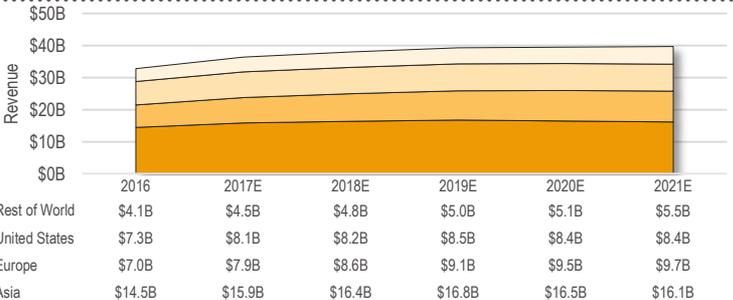
GENRE



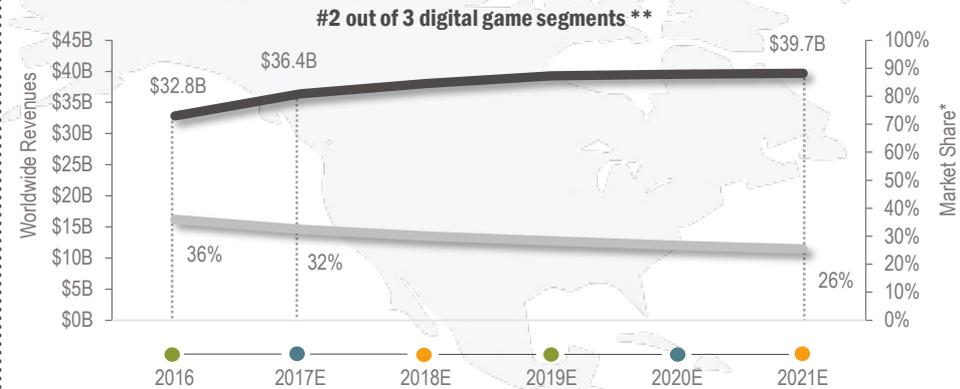
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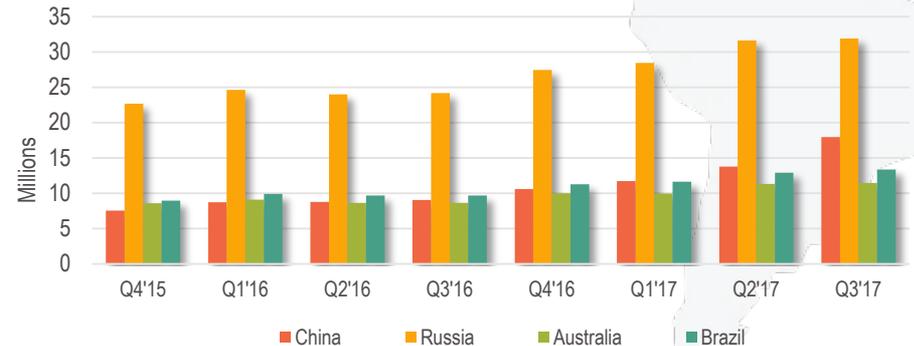
THE BIGGER PICTURE



* Digital PC games as percentage of worldwide digital game revenues

** Based on 2017 worldwide revenue estimates

ESTIMATED STEAM MAU OF EMERGING COUNTRIES (2016-2017)



Source: IDG Analysis



SUMMARY OF FORECAST – DIGITAL PC



- IDG increased its forecast for digital PC gaming revenue in 2017 by over 10%, particularly due to the outperformance of the battle royale subgenre in recent months
 - Although games such as *PlayerUnknown's Battlegrounds* show signs of cannibalizing existing PC games in other subgenres, there is also evidence the battle royale category is driving new growth in the digital PC games market
 - As a result, the Other genre of IDG's Digital PC forecast, under which the battle royale subgenre would be classified, is now forecasted to be the third-largest category in 2017 after MOBA and RPG
- Total digital PC game revenue is expected to reach \$36.4 billion in 2017 and grow to \$39.7 billion by 2021
 - This gives Digital PC the lowest 4-year CAGR within the three segments of only 2%



WINDOWS MIXED REALITY IS A MIXED BAG



- Microsoft launched its inaugural line of Windows Mixed Reality devices, across an impressive array of OEMs (including HP, Lenovo, Dell and Acer) on October 17, along with a higher-end Samsung/Windows Mixed Reality HMD slated to launch on November 10
- On paper, Microsoft has addressed several key constraints that the earlier VR entrants—Oculus Rift and HTC Vive—faced when they first launched in 2016
 - Pricing – Most of the Windows Mixed Reality devices will launch at around \$399, bundled with the headset and motion controllers, with corresponding PCs with the cheapest version launching at \$499. This entails an all-in price point of \$900, which is generally cheaper than the other PC-based VR alternatives.
 - Wider Content Availability – A major challenge for VR/MR remains the lack of compelling gaming content, exacerbated by platform exclusivity in the early going. Microsoft has taken a different approach, by enabling Windows MR hardware to run content from Steam to help make their platform more open with a wider flow of content.
 - Easier Setup – While higher-end VR headsets require external sensors and light emitters, the Windows MR devices use inside-out tracking technology, which mitigates the need for those bulky components
 - Microsoft-specific Content – With so many different VR/MR devices in the market, it is also important for Microsoft to differentiate itself from other competitors through unique and exclusive content. In that spirit, Microsoft launched a special Halo experience called *Halo Recruit*, and the company will also be launching a VR/MR version of *Minecraft*.



WINDOWS MIXED REALITY IS A MIXED BAG (CONT'D)

- To be sure, Microsoft has put a lot of careful thought into its VR/MR launch, but several factors will likely curtail growth at the outset
 - Most of the initial Windows MR devices, outside of Samsung (which will use an OLED screen), are using LCD displays. The problem with LCD displays is that they have a more limited viewing angle and low persistence, both of which compromise the optimum viewing experience in VR/MR.
 - It is also possible that the lower-end PCs being bundled and marketed with Windows MR hardware are powerful enough to power casual experiences, but perhaps not the sophisticated, higher-end VR/MR gaming experiences that require a more expensive PC gaming rig
 - The whole notion of branding this new line of hardware as Mixed Reality is a bit confusing, since Mixed Reality implies the ability to toggle between Virtual Reality and Augmented Reality experiences. In this first iteration of devices, however, the focus is still on Virtual Reality rather than Augmented Reality.
 - IDG anticipates that Microsoft's HoloLens will be a true Mixed Reality experience, but the Windows MR headsets launching in October and November are not actually true Mixed Reality offerings



WINDOWS MIXED REALITY IS A MIXED BAG (CONT'D)

- Ultimately, IDG believes that within the broader panoply of VR-focused headsets, the Windows line of products could show solid sales momentum vis-à-vis the other competitors
- However, the overall sales opportunity will likely remain more niche, at least in the early going, until there is a wider variety of great software content and increasing economies of scale to lower hardware price points on the HMDs and PCs powering them
- If traditional VR hardware remains a more niche-oriented proposition, it is also possible that consumers and manufacturers alike will eventually move on to the potentially larger market opportunity of AR
- IDG will be interested in monitoring the potential integration of other key pieces within the Microsoft value proposition across their VR/MR/AR slate, including Xbox Live and the evolution of HoloLens from an enterprise item to a possible scenario where it could become a bigger direct-to-consumer device



STEAM DIRECT – QUICK BACKGROUND

- Valve launched Steam Direct, a replacement service for Greenlight, in June 2017
 - Through Steam Direct, developers can release a game on Steam after paying a low \$100 fee
- Many feared that the extremely low barriers to entry would result in low quality titles flooding the Steam market, making it more difficult to discover quality games
- What we know:
 - The number of games being released in the weeks after Steam Direct became available have shown such a marked and consistent increase that it is most definitely a result of Steam Direct
 - Valve claims that tests with curation algorithms indicate that the burgeoning catalog of games has not prevented consumers from finding the games they want to play
 - SteamSpy claims the average revenue earned by an indie developer is down almost 50% with the Steam Direct program compared to average revenue earned by an indie developer two years prior
 - However, there are developers that have been mass-publishing “fake” games through Steam Direct to cheat the system, which has likely contributed to the lower average revenue that SteamSpy found in its analysis



STEAM DIRECT WILL LOWER STORE QUALITY

- Despite what Valve claims, it might be a forgone conclusion that the \$100 fee will flood the Steam market with low-quality games, essentially taking Steam from the quality of a Nordstrom to that of a Walmart
- While there's nothing wrong with a Walmart, a Nordstrom attracts a different type of consumer
 - Walmart – massive customer base but low revenue per customer
 - Nordstrom – smaller customer base but high revenue per customer
- Within the gaming community, PC gamers tend to be Nordstrom shoppers, while mobile gamers tend to be the Walmart shoppers of this analogy
- Therefore, IDG believes Valve turning its Steam Direct marketplace into a Walmart will result in a tougher consumer-product fit, and could ultimately be detrimental to Steam



VALVE CHOOSES OPENNESS ABOVE ALL

- The \$100 fee that Valve settled on indicates the company desires to be as open as possible to the developer, even if it is at the expense of its consumer community
- While some developers may view Valve as being admirable for wanting to be as inclusive as possible to aspiring developers, if the company loses the loyalty of its customer base in the process, it is not doing the developer community any favors in the end
- But ultimately, it's not a matter of Valve choosing developers over consumers—rather, in its bid to be the anti-console with their walled gardens, Valve chooses openness above all other factors. But in doing so, the company is letting in some rabble along with the quality.
 - More than just low-quality games, Steam has also become a magnet for users who take advantage of Valve's lack of oversight to run scams or operate non-gaming related side businesses
- As Steam travels down this path, it may behoove Valve to remember that there are some advantages to walled gardens when harnessed correctly... they sustain a well-maintained, easy-to-navigate, helpful and welcoming environment



VALVE WANTS TO BE ALL THINGS TO ALL GAMERS

- While enjoying its dominant market position in established Western markets, Valve has also begun to expand in earnest in emerging territories as well as in Asia
 - Valve recently announced Steam sees on average 1.5 million new users per month
 - Asia now accounts for 17% of Steam's sales revenue
- What was telling is that Steam particularly touted its vast catalog of games as its “biggest asset” and the key reason it is able to draw in consumers from all over the world
- This mindset helps to explain why Valve seems set on lowering the barriers to entry to the level that it has
- However, an important thing to remember is, there is a fine line between having many options and having too many options
 - Having too many options can confuse some consumers or paralyze them with indecision

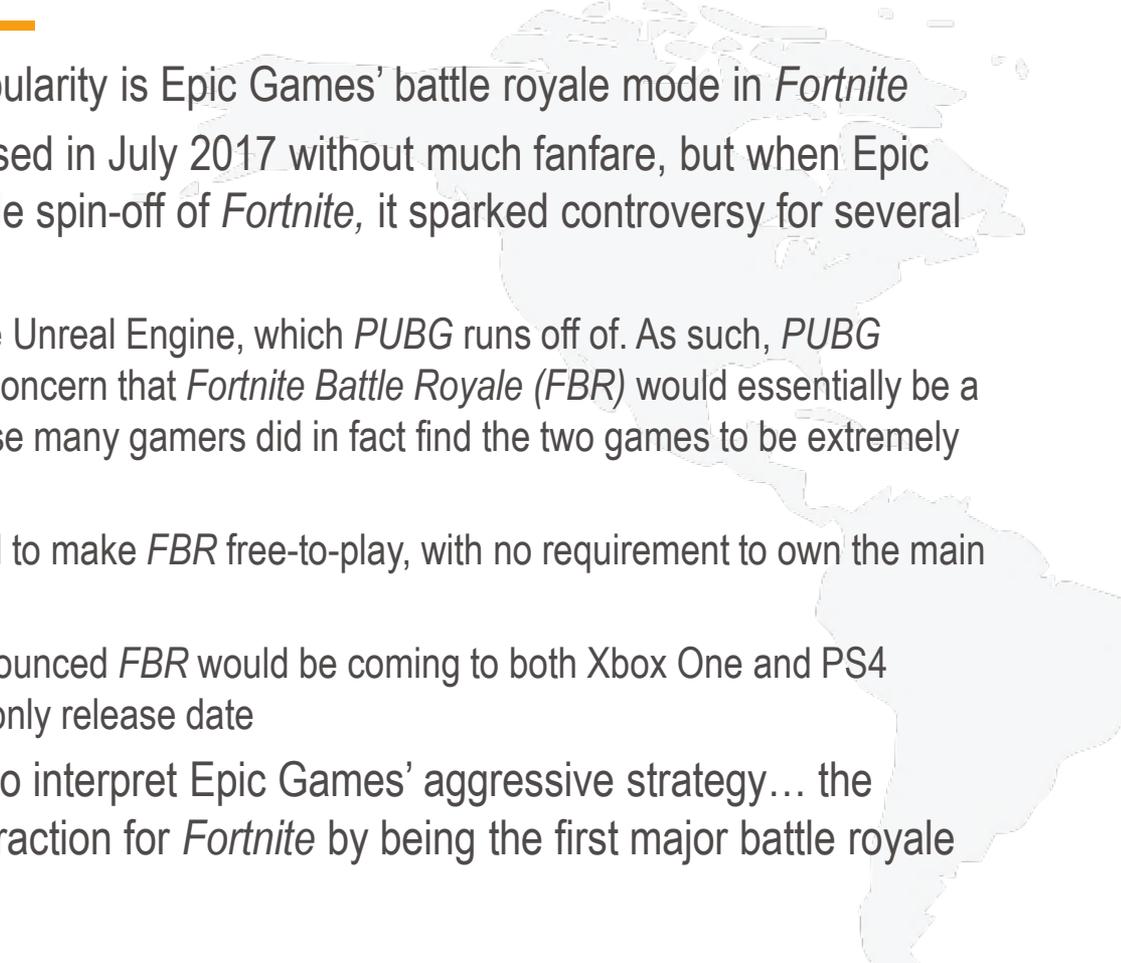


PC TOP TITLES SEE SHIFTS IN LANDSCAPE

- The PC games landscape has been fairly well-entrenched for the past few years, but 2017 has finally shown some major shifts in the landscape
- *PlayerUnknown's Battlegrounds (PUBG)*, which released in Early Access in March 2017, has in just a few months become one of the best-selling and most-played games on the Steam platform
- IDG has long posited that the PC gaming market can only support a finite number of top games at a given time
- Though difficult to prove as direct cannibalization, the fact that *Dota 2*'s userbase has declined in step with *PUBG*'s upswing suggests Valve's MOBA has been the most directly impacted by the latter's rise to popularity



BATTLE ROYALE OF THE BATTLE ROYALE GAMES



- Already challenging *PUBG*'s popularity is Epic Games' battle royale mode in *Fortnite*
- The original *Fortnite* game released in July 2017 without much fanfare, but when Epic Games announced a battle royale spin-off of *Fortnite*, it sparked controversy for several reasons:
 - Epic Games is the creator of the Unreal Engine, which *PUBG* runs off of. As such, *PUBG* developer Bluehole expressed concern that *Fortnite Battle Royale (FBR)* would essentially be a clone of *PUBG*, and upon release many gamers did in fact find the two games to be extremely similar.
 - Furthermore, Epic Games opted to make *FBR* free-to-play, with no requirement to own the main *Fortnite* game
 - On top of that, Epic Games announced *FBR* would be coming to both Xbox One and PS4 before *PUBG*'s own Xbox One-only release date
- There really isn't any other way to interpret Epic Games' aggressive strategy... the publisher wanted to gain better traction for *Fortnite* by being the first major battle royale title on consoles



GAME CLONING

- The *PUBG* vs. *FBR* showdown is interesting because it presents one of the most prominent cases of a publisher calling out another publisher for blatant game cloning
- In the past, the most high-profile game cloning confrontations between developers had been in smaller or more casual gaming categories, such as mobile or social games, or on different platforms (e.g. one game on mobile, the other on PC), and often between developers who were not very well-known
- In this case, *PUBG* is a top game globally, Epic Games is a well-established and respected publisher/developer, and both games are targeting the exact same markets
- In spite of Bluehole having the courage to publicly condemn Epic Games for cloning *PUBG*, *FBR*'s self-reported sales figures and play metrics would suggest consumers are still willing to play the game
- Game cloning has long been an accepted, albeit distasteful, practice within the games industry because it's so difficult to draw the line between "taking inspiration from" and straight replicating of another game. It will be interesting to see if the *PUBG* vs. *FBR* case will bring about reconsideration of the industry's past willingness to overlook cases of blatant game cloning.



Q3'17 NEWS – DIGITAL PC

- Valve announced that it will be doing away with its two “Valve Majors” tournaments that lead up to The International for its 2018 *Dota 2* esports season and will instead support third-party tournaments (July)
- Sony added PS4 titles to its PlayStation Now game streaming service for PS4 and PC (July)
- Gartner and IDC each released their PC shipment reports for Q2 2017. According to Gartner, global PC shipments were down 4.3% to 61.1 million units, and IDC estimated that global PC shipments declined 3.3% to 60.5 million units in the quarter (July)
- A new Twitch feature called Cheer for Bits now allows *Heroes of the Storm* esports league viewers to tip professional players (July)
- Several key Steam statistics were revealed by Valve’s Tom Giardino (August):
 - Steam has 67 million MAUs, 33 million DAUs and an average of 14 million daily concurrent users
 - The company saw 27 million first-time purchasers since January 2016
 - Year-to-date, North America accounts for the highest percentage of Steam’s sales with 34% share, followed by Western Europe with 29%, Asia with 17%, Russian territories with 5%, Oceania with 4% and Latin America with 3%
- At The International 2017, Valve announced a new card game title *Artifact*, which will be based on *Dota 2* (August)



Q3'17 NEWS – DIGITAL PC (CONT'D)

- Valve's prize pool for this year's *Dota 2* esports tournament The International, stood at \$24 million, surpassing last year's prize pool of \$20.7 million (July)
- Microsoft opened its Xbox Live Creators Program, which allows for simplified certification without concept approval for indie developers on Windows 10 and Xbox One, to the public (August)
- After having retired the Battle.net brand 5 months prior, Blizzard reversed course and renamed its PC portal Blizzard Battle.net (August)
- In a bid to combat fraudulent use and key-reselling markets, Valve announced it would be placing restrictions on developers with low sales figures for their titles from making high-volume requests for Steam keys (August)
- Valve is growing its foothold in China by partnering with Perfect World to bring dedicated Chinese servers to *CS:GO* (September)
- A Steam survey revealed that Oculus Rift increased its Steam market share against the HTC Vive by 8.1% since July to 43.8% share thanks to its recent \$200 price cut (September)
- Intel unveiled it would be partnering with PC game distribution service Green Man Gaming for a B2B marketplace, enabling Intel's hardware partners to create bundles with their products and PC game keys from publishers working with Green Man Gaming (September)



Q3'17 NEWS – DIGITAL PC (CONT'D)

- Valve removed 173 titles from Steam—all from developer Silicon Echo Studios, which was found to be selling nearly-identical products and abusing Steam keys, the biggest crackdown on low quality titles since Valve launched Steam Direct (September)
- *PlayerUnknown's Battlegrounds* sold over 20 million copies since launching in March despite still being in Early Access (November)



TOP PC DIGITAL GAMES & PUBLISHERS IN Q3'17



Title	Publisher	Price
<i>Dota 2</i>	Valve	Free-to-Play
<i>Counter-Strike: Global Offensive</i>	Valve	\$14.99
<i>PLAYERUNKNOWN'S BATTLEGROUNDS</i>	Bluehole, Inc.	\$29.99
<i>Team Fortress 2</i>	Valve	Free-to-Play
<i>H1Z1: King of the Hill</i>	Daybreak Game Company	\$19.99
<i>Grand Theft Auto V</i>	Rockstar Games	\$59.99
<i>Paladins</i>	Hi-Rez Studios	Free-to-Play
<i>Rocket League</i>	Psyonix	\$19.99
<i>PAYDAY 2</i>	505 Games	\$19.99
<i>Unturned</i>	Smartly Dressed Games	Free-to-Play

Source: IDG's estimates, based on MAUs. Prices are in estimates of SRP during the quarter, not actual ARP.

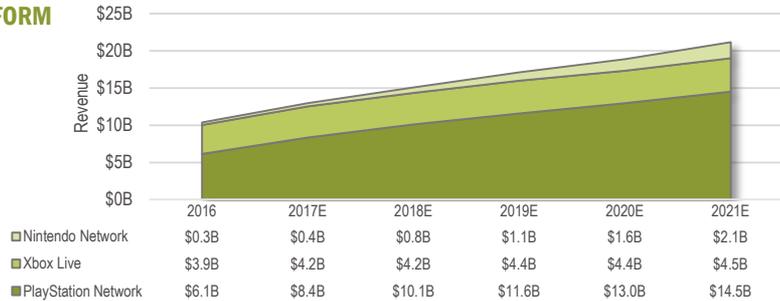




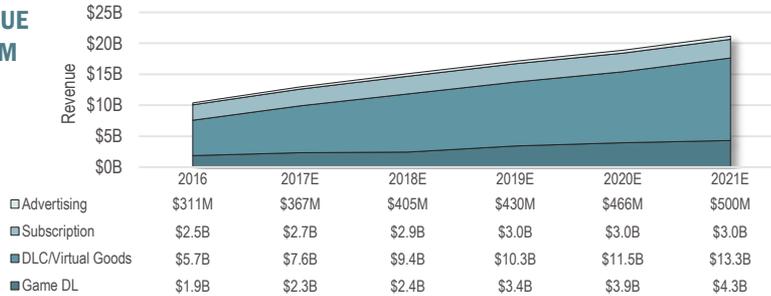
DIGITAL CONSOLE

DIGITAL CONSOLE SEGMENT SNAPSHOT

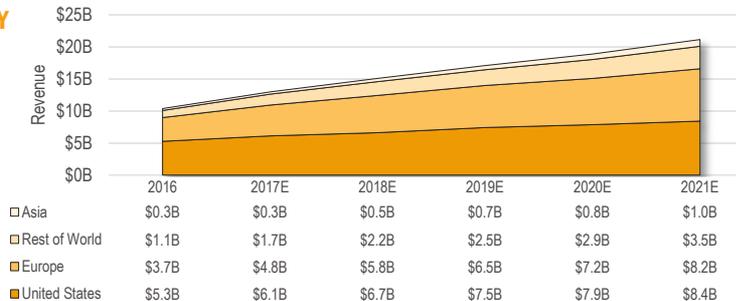
PLATFORM



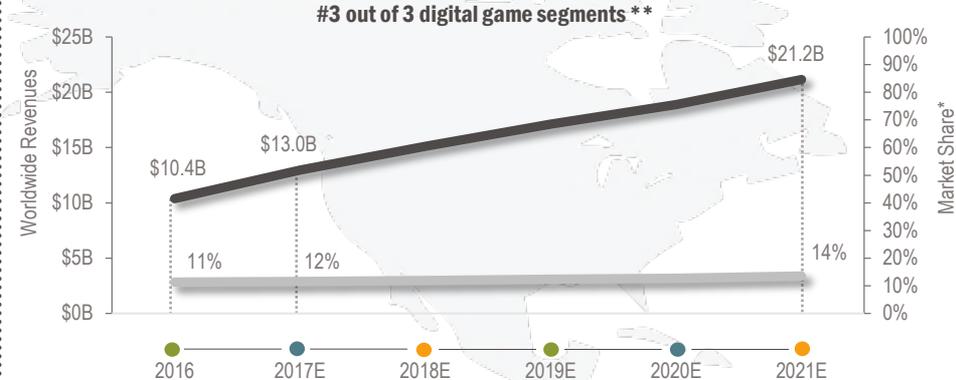
REVENUE STREAM



TERRITORY



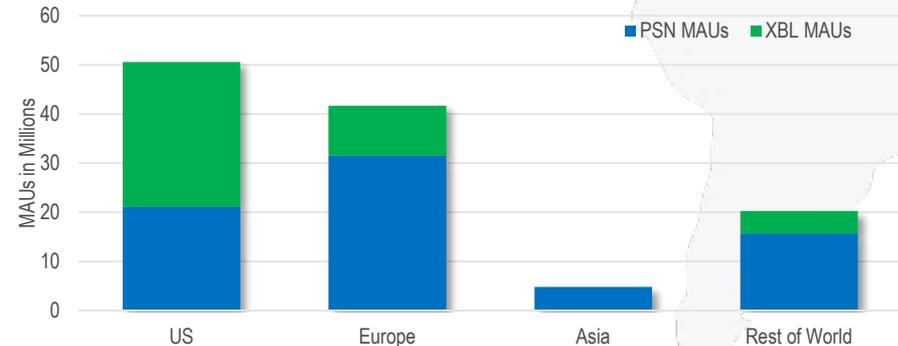
THE BIGGER PICTURE



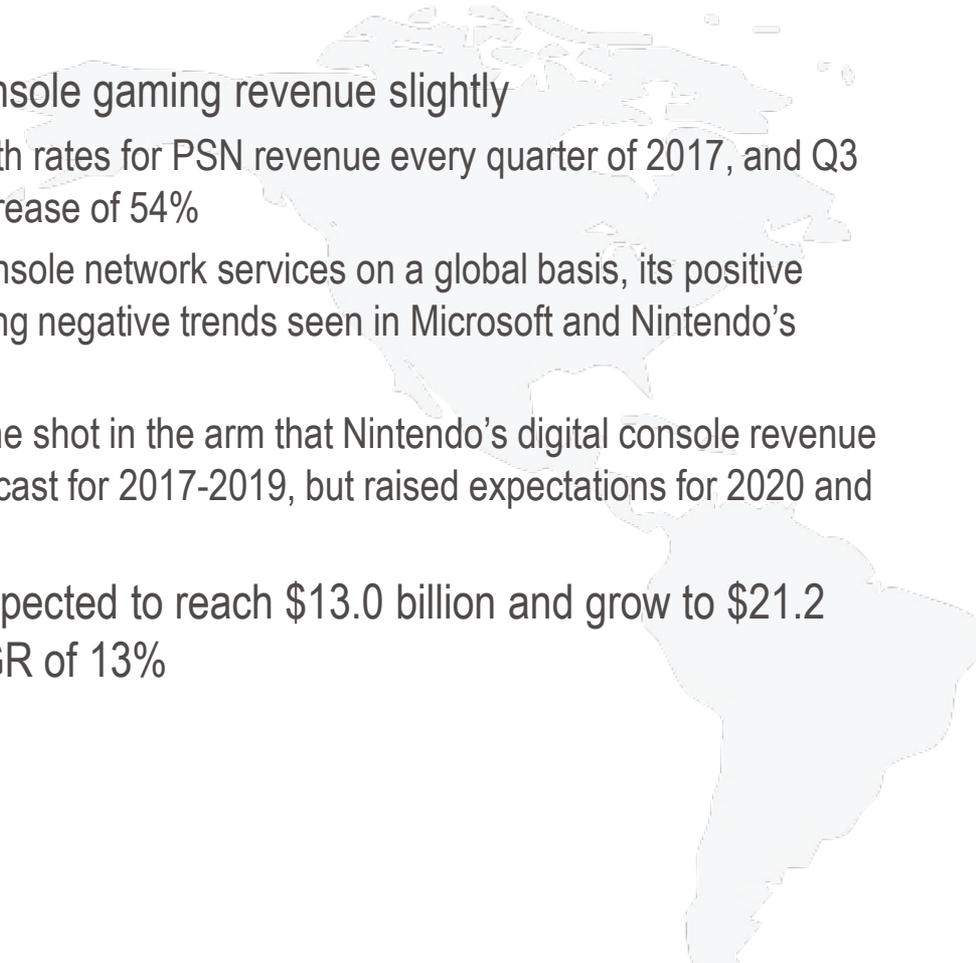
* Digital Console games as percentage of worldwide digital game revenues

** Based on 2017 worldwide revenue estimates

DIGITAL CONSOLE MAUS BY REGION (PSN & XBL - 2017E)



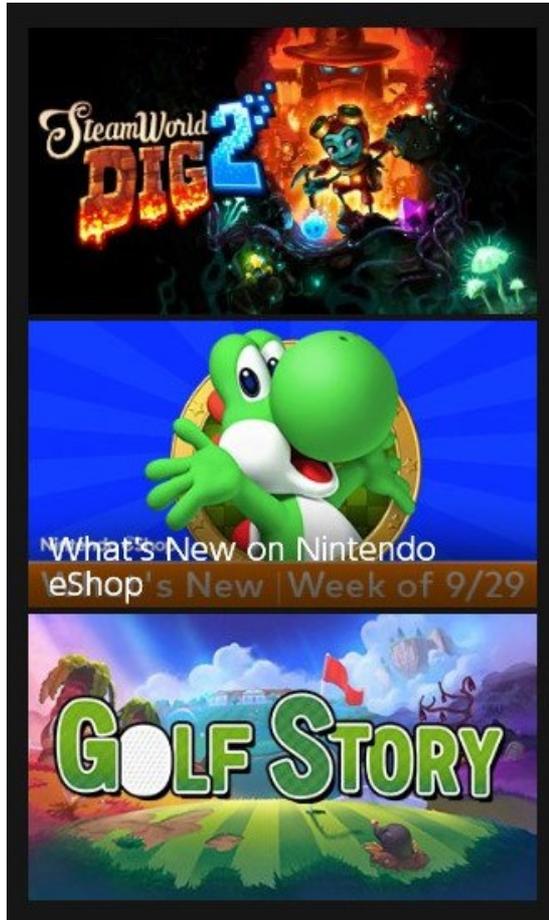
SUMMARY OF FORECAST – DIGITAL CONSOLE



- IDG raised the 2017 forecast for digital console gaming revenue slightly
 - Sony has been reporting accelerating growth rates for PSN revenue every quarter of 2017, and Q3 was no exception with a year-over-year increase of 54%
 - As PSN is by far the largest of the three console network services on a global basis, its positive growth trends were able to offset the ongoing negative trends seen in Microsoft and Nintendo's latest earnings reports
 - As the Switch has been proving to not be the shot in the arm that Nintendo's digital console revenue needs, IDG further lowered Nintendo's forecast for 2017-2019, but raised expectations for 2020 and beyond
- Overall, 2017 digital console revenue is expected to reach \$13.0 billion and grow to \$21.2 billion by 2021, representing a 4-year CAGR of 13%



ESHOP HAS MADE KEY INDIE IMPROVEMENTS



- Though AAA third-party support has been lacking, the Switch has had an impressive launch and Nintendo has been able to attract quality indie titles to the platform's eShop
- As eShop competition has been light and early Switch owners are hungry for quality content, indies have been seeing remarkably higher attach rates
 - The respective developers behind *Oceanhorn*, *Wonder Boy*, *Forma.8*, and *Death Squared* have all noted that Switch has been the best performing console platform for their titles
- Curation and presentation of new content have been key for eShop's remarkable indie catalog thus far, with Nintendo highlighting new eShop content right from the Switch's lockscreen on a weekly basis
- Furthermore, Nintendo is dedicating considerable company PR for the "Nindies" program through Nintendo Direct livestreams



BUT INDIE SLATE COULD BECOME CROWDED

- However, competition is heating up with the number of titles released on the eShop each week on the rise, as more indie developers are rushing to bring their new and catalog content to Switch in search of success
- Thus, there now poses a longer-term risk that the Switch's eShop could become overly saturated, likely making it difficult for quality titles to stand out as has been the case on other major digital platforms like Steam, Xbox Live, PSN, iOS, Android



Nintendo will have to CURATE quality titles, OPTIMIZE release schedules, and continue offering strong platform MARKETING for the Switch eShop to remain an attractive platform for indies



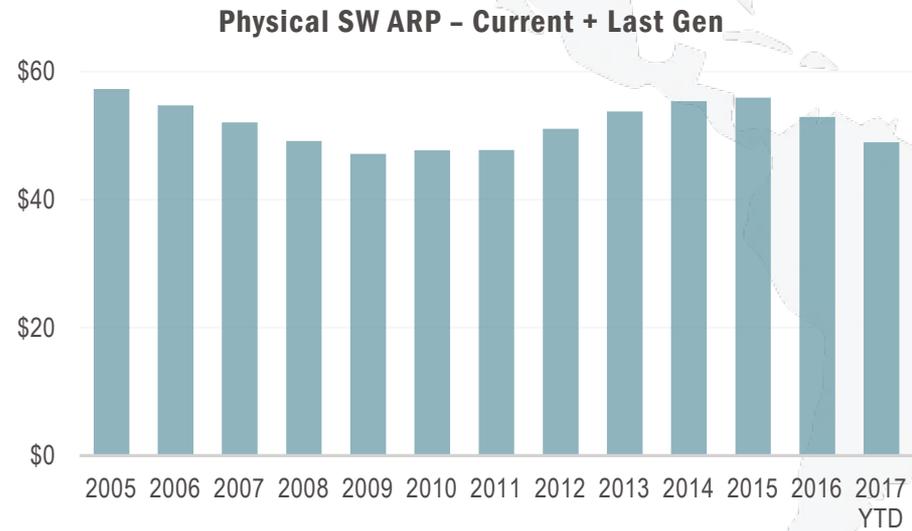
MICROTRANSACTION TACTICS ARE UNDER SCRUTINY

- AAA publishers have been enhancing their microtransaction and virtual currency strategies, but reviewers and player communities haven't been keen on these changes:
 - *Forza Motorsport 7*'s VIP Pass was quietly changed to turn certain boosts that were traditionally permanent into consumable ones, with Turn 10 altering the language of the VIP Pass description after some players had already purchased it
 - ▲ The developer apologized and reversed course following backlash from the player community, planning now to maintain the same boost system from *Forza Motorsport 6*
 - Reviewers noted that *NBA 2K18* offered only a limited amount of virtual currency through regular gameplay, making it increasingly difficult for players to upgrade skills or cosmetics
 - ▲ 2K later significantly reduced the cost of these cosmetic items to appease players, but the skill progression system remains unchanged
 - *Destiny 2* players have been upset about the implementation of shaders (color cosmetics), as they are now consumable items rather than permanent drops and are only available to buy through loot boxes, so players have to try their luck to get the individual colors they're looking for
 - *Middle-earth: Shadow of War* also received negative press from the announcement of purchasable loot boxes for character boosts for the traditionally single player game



BALANCING DLC TACTICS WITH LOYAL AUDIENCES – A KEY CHALLENGE

- Many of the major publishers across the industry have been moving towards fewer but bigger releases for their IP, but this has led to ever-rising development/marketing costs and publishers are feeling pressure to hit higher and higher revenue goals
- Despite these rising costs and inflation, the traditional \$60 price point for the standard edition of a AAA game has remain unchanged for years as publishers fear the games would be less accessible for the average consumer
- In this climate it is no wonder that publishers are pursuing deeper strategies for post-game monetization, but this part of the equation is often lost upon the everyday consumer
- Thus, IDG recommends publishers strive for **new and interesting ways to add value** to their titles through DLC, rather than making changes to the mechanics of a series that their fans have become accustomed to



ONLINE CONSOLE NETWORKS GAIN PROMINENCE

- Over the past 11 years, the ongoing battle between Xbox Live and PlayStation Network (PSN) has been a fierce one, as both platform holders (Xbox and PlayStation) continue to improve and innovate in this valuable growth area
- While both platform holders had placed an emphasis on hardware in earlier generations, both companies are becoming more holistic in driving strategy across the symbiotic combination of hardware, software and services
- Within this dynamic, Xbox Live and PSN have emerged as critical trojan horses, through which each platform holder can accomplish the following:
 - Improve the overall console online experience along with the online multiplayer ecosystem
 - Provide a new distribution channel for indie developers and catalog games
 - Create a new digital distribution paradigm through which DLC, virtual goods and full-game downloads have morphed into mainstream revenue models



ONLINE CONSOLE NETWORKS (CONT'D)

- While these online console networks have revolutionized the games market, IDG believes that this segment of the market will actually become even more prominent in the years to come, for the following reasons:
 - In earlier generations, the hardware architectures of Xbox and PlayStation were dramatically different from each other. By contrast, the Xbox One and PS4 have more similarities than differences, with greater overlap with PC hardware design. As a result, the online console networks will become more important in differentiating one platform versus the other, since the hardware specifications are becoming less of a differentiator.
 - As the overarching long-term trends on software move increasingly in the digital direction, PSN and Xbox Live will likely gain more market share as a “retailer” of digital content within the games business. Building out and improving the online storefront will be integral.
 - While most 3rd party publishers have eschewed platform exclusivity on full games in this cycle (whereas in prior cycles 3rd party publishers would be more open to launching a game exclusively on PlayStation or Xbox if the economic terms made sense), the new form of exclusivity is manifested in DLC exclusivity at launch on one online console network at the expense of the other. One exception to this is *PlayerUnknown's Battlegrounds*, which is making its console-exclusive debut on Xbox Live later this year.



ONLINE CONSOLE NETWORKS (CONT'D)

- To be sure, Xbox Live and PlayStation Network both have some issues to work out. One, in particular, involves the increasingly crowded nature of both platforms' storefronts. With more titles being launched digitally through these two networks, it is understandable that curation and discoverability are becoming major issues.
 - However, it must be noted that many 3rd party publishers/developers have told IDG that while curation is difficult on Xbox Live and PSN, both platforms have done a better job to improve in this area vis-à-vis other more crowded online marketplaces, including the Apple App Store, the Google Play App Store, and Steam, among others
- Another key trend to monitor is the possibility that certain games will be truly cross-platform across PSN and Xbox Live in the future
 - While Sony has shown some reticence in this area, due to concerns over protecting the integrity of the user experience, Microsoft has shown greater openness in this area, and that has manifested through actions including some cross-platform announcements on PC between the Windows and Steam ecosystems as well as *Minecraft* performing well on Nintendo's eShop
 - Psyonix and other industry leaders have been calling for a more open approach and it is likely that PSN and Xbox Live will be called upon to help lead that charge on console



CONSOLE F2P MARKET UPDATE

- Interestingly, console free-to-play games have not taken off in the same way that free-to-play games have outperformed on PC and mobile platforms in recent years
- While certain console F2P games have indeed stood out, including Wargaming's *World of Tanks*, most of the top-tier console F2P games have been published by studios that have a larger non-console pedigree
- By contrast, most of the major console-focused publishers have yet to attack the console F2P market with the same vigor that they have targeted the Buy-to-Play (B2P) market



CONSOLE F2P MARKET UPDATE (CONT'D)

- As IDG has reported in the past (and the same rationale rings true today), most major console publishers have found massive success with hybrid physical/digital and full-game + microtransaction and DLC business models
- In essence, many console publishers, including EA, Activision Blizzard, Take-Two, Ubisoft, and Warner Bros., among others, have seen their margins and recurring revenue baselines expand due to the shift away from \$60 retail games to a wider mix of \$60 retail games followed by expansive digital content pipelines with high profit margins
- With this hybrid business model increasingly becoming the norm in the console realm, console F2P business models continue to take a backseat from a competitive standpoint



CONSOLE F2P MARKET UPDATE (CONT'D)

- Beyond the market share dominance of this hybrid model, some console publishers also eschew the F2P model on console because the size of the top of the user funnel is still far smaller on console versus PC and mobile
- Even though certain console F2P games actually monetize better than their PC F2P counterparts, the overall number of users is much smaller and therefore constrains the revenue opportunity
- Another key constraint is the lack of cross-platform online multiplayer gameplay. As long as the PSN and Xbox Live universes remain two separate silos, the user funnel for console F2P games will remain fragmented and constrained.



Q3'17 NEWS – DIGITAL CONSOLE

- Nintendo ceased production of the New 3DS in Japan, but the New 3DS XL, regular 2DS and New 2DS XL are still being produced (July)
- In its quarterly earnings, Ubisoft reported that Q1 revenues for the company were up 45% y/y to \$234 million, with 80% of sales coming from digital sources (July)
- Microsoft released its Q4 2017 earnings, stating that overall gaming revenue grew 3% y/y to \$1.65 billion for the quarter driven by 11% growth for Xbox software and services thanks to strong Xbox Live sales. Microsoft also announced that Active Xbox Live users grew to 53 million this quarter from 49 million during the same period a year prior. (July)
- Sony increased the price of PlayStation Plus by 25% in Europe and 15% in Australia starting on August 31st (August)
- Nintendo's earnings report for Fiscal Q1 2017 revealed that Nintendo's smart device and IP related income segment, which houses its mobile titles like *Super Mario Run* and *Fire Emblem Heroes*, saw \$80 million in revenue for the quarter (August)
- Sony released its earnings report for Fiscal Q1 2017 showing a 5.4% increase in revenue to \$3.15 billion for the company's Game and Network Services division (August)



Q3'17 NEWS – DIGITAL CONSOLE (CONT'D)

- Activision Blizzard posted earnings for Q2 2017 with revenue up 14% y/y to \$1.63 billion despite a 13% y/y drop in the console segment (August)
- Nintendo added PayPal support for the Nintendo Switch eShop, a first for the company as it works to bolster its digital console offering (August)
- GameStop released Q2 earnings report showing a 28% y/y increase in digital revenue to \$46.5 million (August)
- Nintendo of Europe released a boxed version of *Pokémon Gold* and *Silver* for 3DS—the boxes only contain a digital code for the titles, similarly to the way *Splatoon 2* was sold in Japan earlier in 2017 (September)
- Bungie announced that *Destiny 2* reached 1.2 million concurrent players across both PS4 and Xbox One during its launch weekend (September)
- Tencent confirmed it will be bringing its MOBA *Honor of Kings*, known as *Arena of Valor* in the West, to Switch (September)
- Nintendo revealed a new bundle for Switch, including some themed accessories and a digital code for *Super Mario Odyssey* due to launch on October 27th (September)



TOP TITLES – NINTENDO ESHOP – Q3'17

Nintendo eShop

Rank	3DS eShop Games	Publisher	SRP (USD)
1	<i>Pokémon Yellow</i>	Nintendo	\$9.99
2	<i>Super Mario Bros. 3</i>	Nintendo	\$4.99
3	<i>Pokémon Red</i>	Nintendo	\$9.99
4	<i>Miitopia</i>	Nintendo	\$39.99
5	<i>Super Mario World</i>	Nintendo	\$7.99
6	<i>Animal Crossing: New Leaf – Welcome amiibo</i>	Nintendo	\$19.99
7	<i>Pokémon Blue</i>	Nintendo	\$9.99
8	<i>Kirby's Blowout Blast</i>	Nintendo	\$6.99
9	<i>Zelda: Ocarina of Time 3D</i>	Nintendo	\$19.99
10	<i>Zelda: A Link to the Past</i>	Nintendo	\$7.99
Rank	Switch eShop Games	Publisher	SRP (USD)
1	<i>Minecraft: Nintendo Switch Edition</i>	Mojang	\$29.99
2	<i>Mario Kart 8 Deluxe</i>	Nintendo	\$59.99
3	<i>Snipperclips</i>	Nintendo	\$19.99
4	<i>Splatoon 2</i>	Nintendo	\$59.99
5	<i>Zelda: Breath of the Wild</i>	Nintendo	\$59.99
6	<i>Sonic Mania</i>	SEGA	\$19.99
7	<i>Shovel Knight: Treasure Trove</i>	Yacht Club Games	\$24.99
8	<i>Overcooked: Special Edition</i>	Team17 Digital Ltd.	\$19.99
9	<i>Mario + Rabbids Kingdom Battle</i>	Ubisoft	\$59.99
10	<i>Mighty Gunvolt Burst</i>	INTI CREATES CO., LTD.	\$9.99

Source for eShop top titles: Nintendo Everything



TOP TITLES – PLAYSTATION STORE – Q3'17

PlayStation® Store 

Rank	PlayStation 4 Games	Publisher	SRP (USD)
1	<i>Grand Theft Auto V</i>	Rockstar Games	\$59.99
2	<i>Rocket League</i>	Psyonix Inc	\$19.99
3	<i>Friday the 13th: The Game</i>	Gun Media	\$39.99
4	<i>Madden NFL 18</i>	Electronic Arts	\$59.99
5	<i>Minecraft: PlayStation 4 Edition</i>	Mojang	\$19.99
6	<i>Crash Bandicoot N. Sane Trilogy</i>	Activision Blizzard	\$39.99
7	<i>TOM CLANCY'S RAINBOW SIX SIEGE</i>	Ubisoft	\$49.99
8	<i>EA SPORTS UFC 2</i>	Electronic Arts	\$39.99
9	<i>Middle-earth: Shadow of Mordor – Game of the Year Edition</i>	Warner Bros. Interactive	\$19.99
10	<i>STAR WARS Battlefront Ultimate Edition</i>	Electronic Arts	\$29.99
Rank	PlayStation VR Games	Publisher	SRP (USD)
1	<i>SUPERHOT VR</i>	SUPERHOT Team	\$24.99
2	<i>Arizona Sunshine</i>	Vertigo Games	\$39.99
3	<i>Job Simulator</i>	Owlchemy Labs, Inc.	\$29.99
4	<i>Paranormal Activity: The Lost Soul</i>	VRWERX, LLC	\$39.99
5	<i>PlayStation VR Worlds</i>	Sony Interactive Entertainment	\$19.99
6	<i>Until Dawn: Rush of Blood</i>	Sony Interactive Entertainment	\$19.99
7	<i>Sparc</i>	CCP Games	\$29.99
8	<i>Apollo 11 VR</i>	Immersive VR Education Ltd.	\$11.99
9	<i>Batman: Arkham VR</i>	Warner Bros. Interactive	\$19.99
10	<i>Archangel</i>	Skydance Interactive LLC	\$29.99

Source for PSN top titles: PlayStation Blog





Q3'17 M&A, INVESTMENTS & PARTNERSHIPS

M&A / INVESTMENTS / PARTNERSHIPS

DATE	HOST	TARGET	NOTES
July 2017			Chinese developer NetDragon Websoft acquired US educational game studio JumpStart, which makes popular titles such as Neopets and has partnerships with DreamWorks Animation to build games based on popular IP such as Madagascar and How To Train Your Dragon, for an undisclosed sum
July 2017			South Korean mobile messaging company Line acquired a 51% stake in mobile studio NextFloor
July 2017			Logitech acquired gaming headset company Astro for \$85 million in the hopes of expanding its console business and growing its esports brand
July 2017			Large UK retailer Sports Direct acquired a 25.75% stake in GAME
July 2017			Next Games, developer of mobile title <i>The Walking Dead: No Man's Land</i> acquired <i>Hidden Heroes</i> developer Lume Games
July 2017			VR hand tracking company Leap Motion raised \$50 million in Series C funding round led by clients of J.P. Morgan Asset Management, which the company will use to help expand into Asia with its first office in Shanghai
July 2017	 SINGULARITY VENTURES Hany Nada		Plexchat, a cross-platform communication app for mobile gaming, raised \$7 million in seed funding round led by Raine Ventures. Other investors include Dream Incubator, First Round Capital, Lumia Capital, Macro Ventures, Singularity Ventures and founder of GGV Capital Hany Nada.



M&A / INVESTMENTS / PARTNERSHIPS

DATE	HOST	TARGET	NOTES
August 2017	Tencent 腾讯	 FRONTIER	Tencent acquired a 9% stake in Frontier Developments for £17.7 million (\$23.4 million), with Tencent noting that space exploration and theme park games like those in Frontier's portfolio were seeing growing interest from Chinese consumers
August 2017	Tencent 腾讯	 milkytea™	Tencent invested an undisclosed sum in UK developer Milky Tea to fund new PC and console titles and support development for its upcoming title <i>HyperBrawl Tournament</i>
August 2017	Undisclosed	 SUPER EVIL MEGACORP	Super Evil Megacorp, mobile developer behind <i>Vainglory</i> , announced that it received \$19 million in investment from undisclosed parties and has expanded its studio space
August 2017	Tencent 腾讯 amazon	 Essential	Amazon and Tencent have invested an undisclosed sum in Essential Products Inc., a smartphone startup from the founder of the Android OS that aims to develop a premium Android smartphone similar to the iPhone
August 2017	Harish Nim	 BATTLE BREW PRODUCTIONS	Singapore-based startup BattleBrew Productions secured an undisclosed sum of funding from private angel investor Harish Nim, CEO of Emerio Corp., to help the company release its first game
August 2017	 Millennial Esports™	 eden GAMES	In a bid to quickly expand into racing games, Millennial Esports acquired an 82.5% stake in Eden Games, the mobile racing developer behind <i>Test Drive Unlimited</i> and <i>V-Rally</i> , for \$10.5 million
August 2017	 GSV Acceleration  IPR.VC  Brighteye Ventures  Reach	 Lightneer	Lightneer, a Finnish mobile studio focusing on educational games, raised \$5 million in a seed funding round from GSV Acceleration, IPR.VC, Brighteye VC, and Reach Capital ahead of the launch of its upcoming <i>Big Bang Legends</i> game



M&A / INVESTMENTS / PARTNERSHIPS

DATE	HOST	TARGET	NOTES
August 2017	 ZP Capital 	 SLIVER.tv	Sliver.tv, an esports broadcasting company specializing in VR, raised \$9.8 million in funding round led by Danhua Capital, Heuristic Capital Partners, and ZP Capital. The company said it plans to invest the funds in research and development for machine vision and AI with respect to VR.
August 2017		 Matchmade	Mobile games influencer marketing platform Matchmade raised \$1.73 million in a funding round led by Global Founders Capital, with the company expecting to use the funding to grow its operations and enterprise offerings as well as its analytical and forecasting abilities
September 2017	 Challenge Everyone!		Tournament organizer Oomba acquired GameWorks, an arcade chain, in the hopes of adding esports stadium facilities to the seven existing GameWorks facilities
September 2017			Wargaming Mobile acquired casual games developer Hapti.co, formerly a subsidiary of Hitman developer IO Interactive, for an undisclosed sum
September 2017			TechCrunch reported that unspecified sources claim Patreon, a popular donation platform for YouTubers and other content creators, successfully closed a Series C funding round with participation from Index Ventures, with sources valuing the company at \$450 million
September 2017			Automaton Games raised \$10 million in funding from Cambridge Venture Partners to develop an MMO shooter using Improbable's SpatialOS platform



M&A / INVESTMENTS / PARTNERSHIPS

DATE	HOST	TARGET	NOTES
September 2017	  		Mira, an augmented reality startup working on a mobile AR headset called Prism, raised \$1 million in a funding round led by Greylock Partners with Founders Fund and Macro Ventures participating
September 2017			Google acquired some of HTC's smartphone staff for \$1.1 billion, as Google hopes to bolster its hardware capabilities and HTC hopes to streamline its smartphone business while expanding its virtual reality business
September 2017			AMC Entertainment invested \$20 million in VR startup Dreamscape Immersive, which had already received funding from the likes of Steven Spielberg, 21st Century Fox, MGM, and Warner Bros., to finance the opening of 6 location-based VR experiences over the next 18 months, with some coming to different AMC theaters
September 2017	Undisclosed		Gfinity, British esports tournament organizer, raised \$9.4 million in a funding round from unspecified participants, with the company planning to develop its Elite Series Competition on BBC, expand internationally, and invest in esports technology

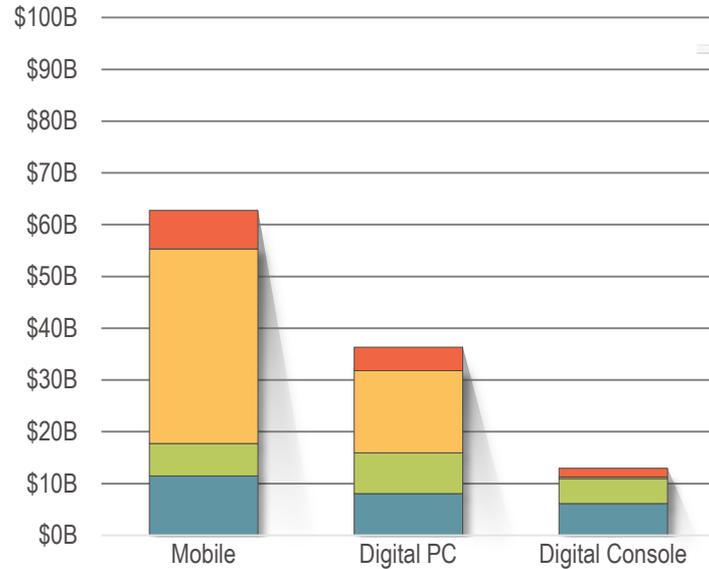




2017E– 2021E DIGITAL GAME SEGMENTS BY TERRITORY

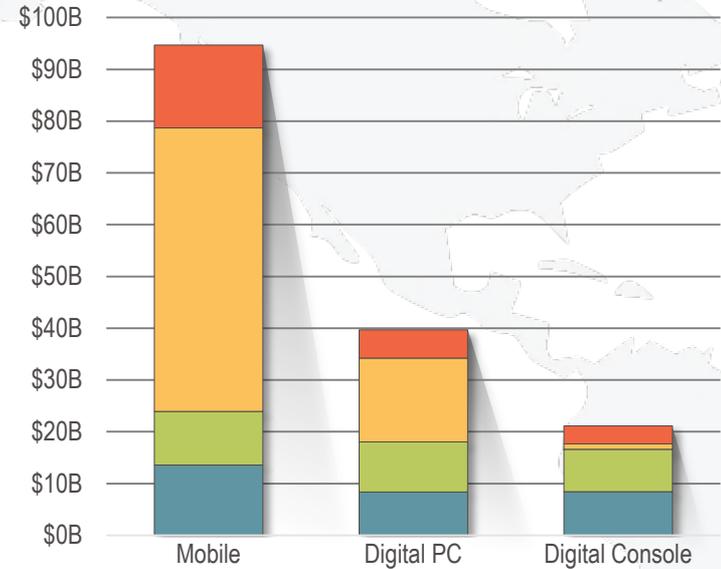
'17E – '21E REVENUE BY TERRITORY & CATEGORY

2017E Revenue by Territory & Category



Territory	Mobile	Digital PC	Digital Console
Rest of World	\$7.4B	\$4.5B	\$1.7B
Asia	\$37.6B	\$15.9B	\$0.3B
Europe	\$6.3B	\$7.9B	\$4.8B
United States	\$11.5B	\$8.1B	\$6.1B
TOTAL	\$62.7B	\$36.4B	\$13.0B

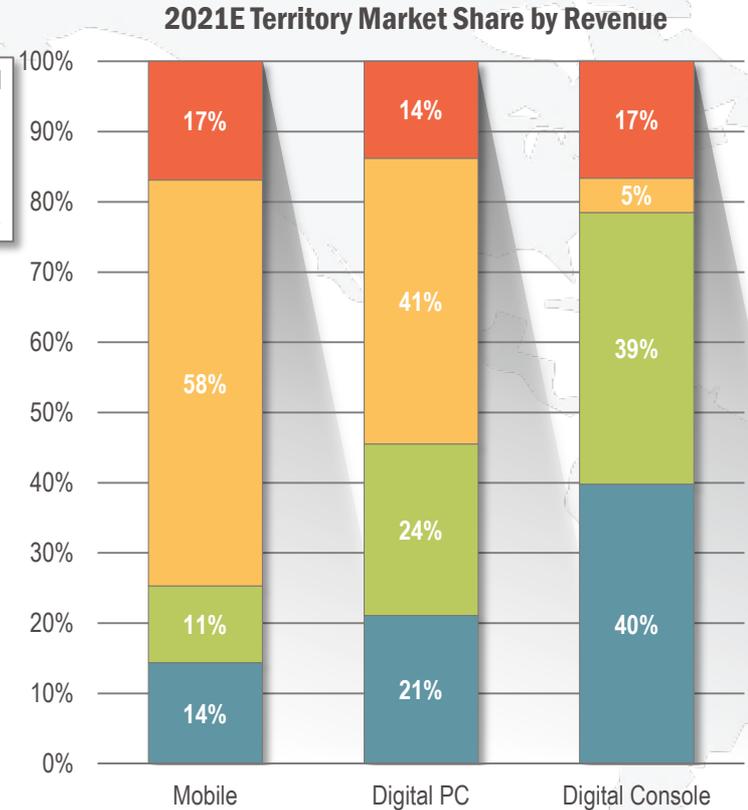
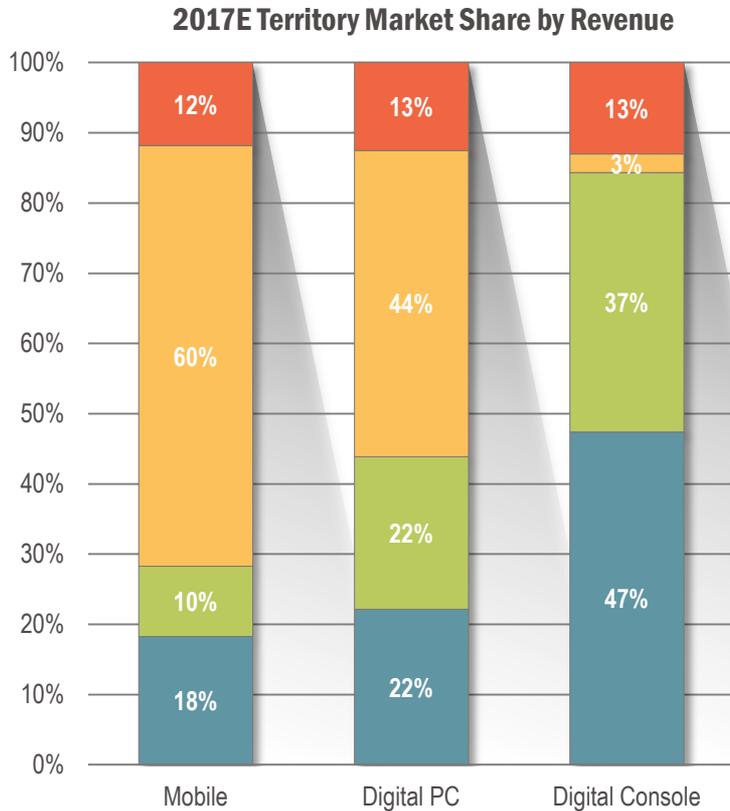
2021E Revenue by Territory & Category



Territory	Mobile	Digital PC	Digital Console
Rest of World	\$16.0B	\$5.5B	\$3.5B
Asia	\$54.7B	\$16.1B	\$1.0B
Europe	\$10.4B	\$9.7B	\$8.2B
United States	\$13.6B	\$8.4B	\$8.4B
TOTAL	\$94.7B	\$39.7B	\$21.2B

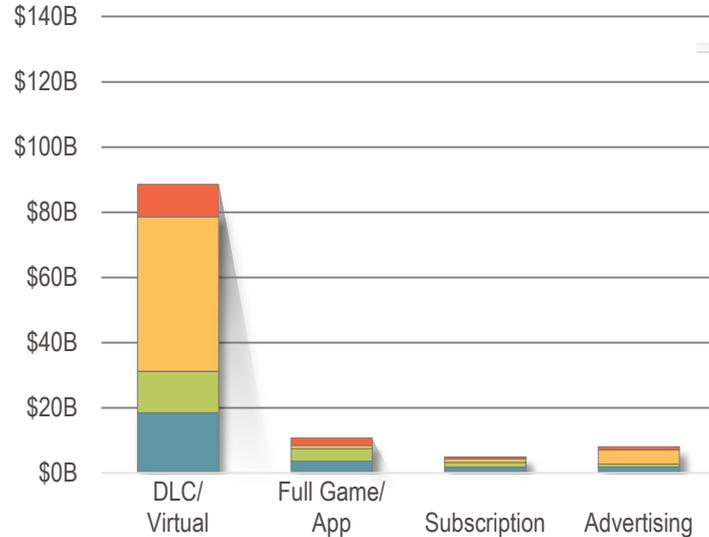


'17E – '21E REVENUE BY TERRITORY & CATEGORY – MARKET SHARE



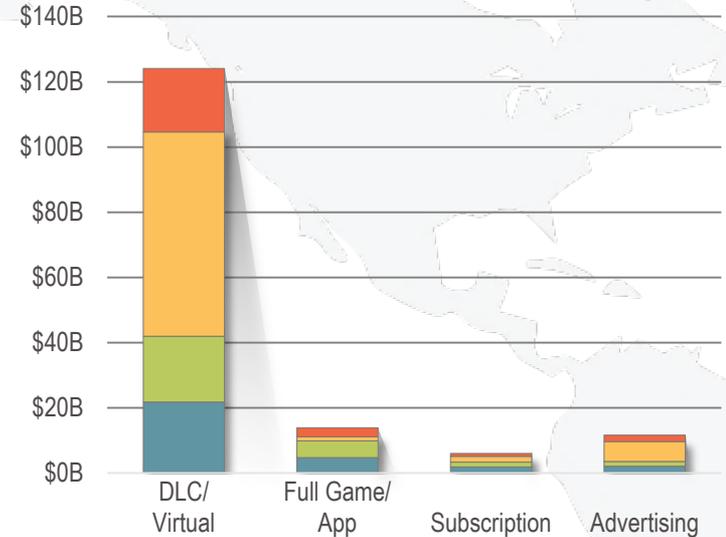
'17E – '21E REVENUE BY TERRITORY & MONETIZATION SCHEME

2017E Revenue by Territory & Monetization Scheme



TOTAL	\$88.5B	\$10.7B	\$4.9B	\$8.0B
Rest of World	\$9.9B	\$2.3B	\$0.5B	\$1.0B
Asia	\$47.4B	\$1.0B	\$1.1B	\$4.3B
Europe	\$12.8B	\$3.8B	\$1.5B	\$0.9B
United States	\$18.5B	\$3.6B	\$1.8B	\$1.8B

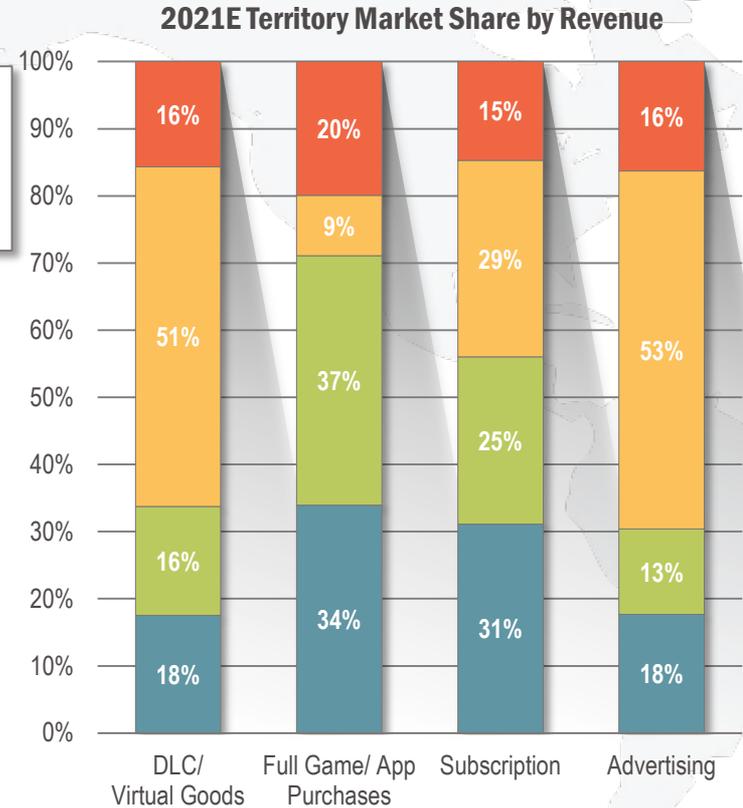
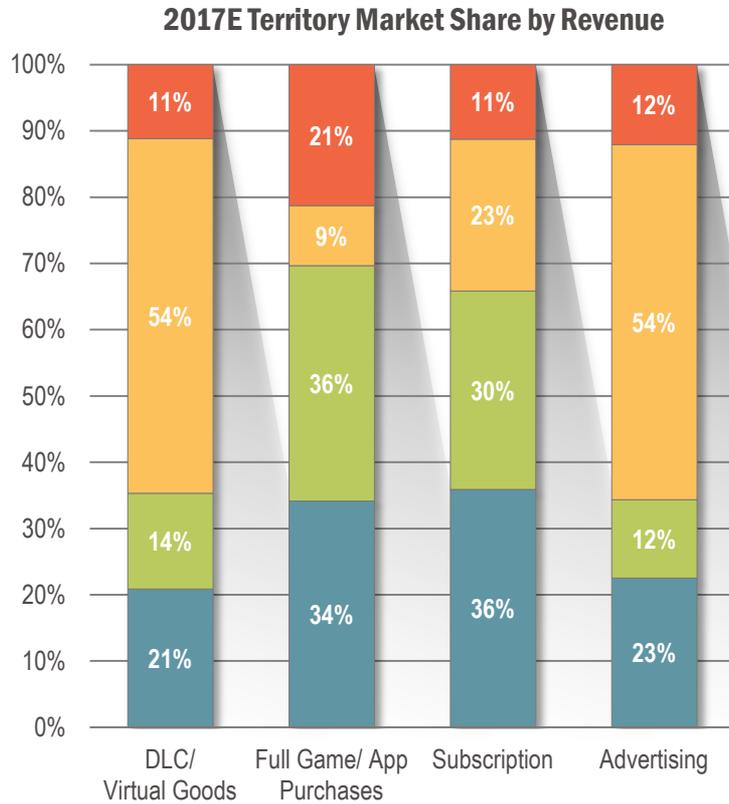
2021E Revenue by Territory & Monetization Scheme



TOTAL	\$124.1B	\$13.9B	\$6.0B	\$11.6B
Rest of World	\$19.5B	\$2.8B	\$0.9B	\$1.9B
Asia	\$62.7B	\$1.2B	\$1.8B	\$6.2B
Europe	\$20.1B	\$5.2B	\$1.5B	\$1.5B
United States	\$21.8B	\$4.7B	\$1.9B	\$2.0B

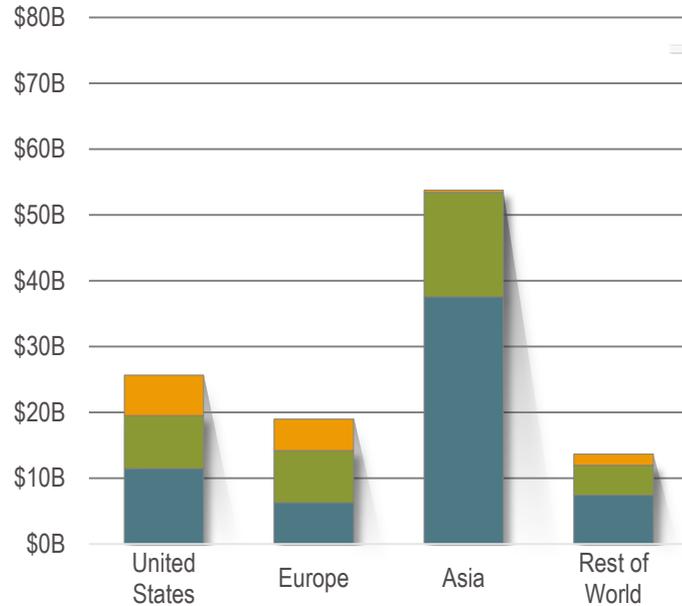


'17E – '21E REV. BY TERRITORY & MONETIZATION SCHEME – MARKET SHARE



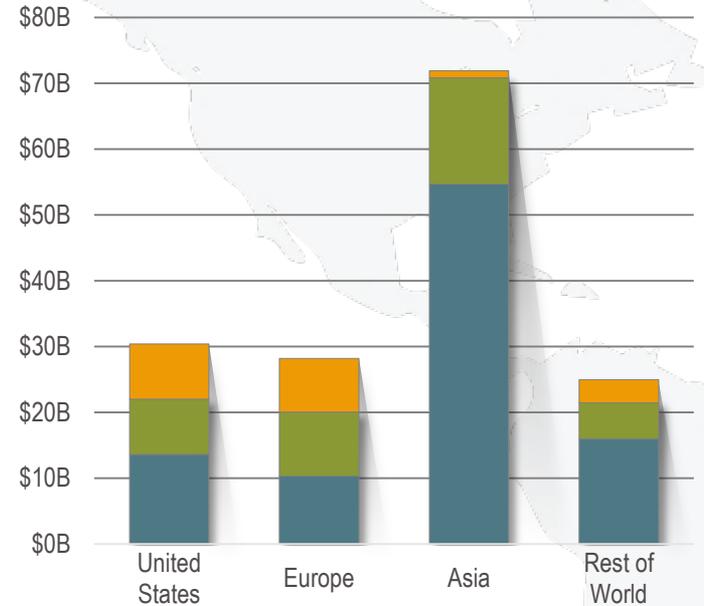
'17E – '21E REVENUE BY TERRITORY & CATEGORY

2017E Revenue by Category & Territory



Territory	Mobile	Digital PC	Digital Console	TOTAL
United States	\$11.5B	\$8.1B	\$6.1B	\$25.7B
Europe	\$6.3B	\$7.9B	\$4.8B	\$19.0B
Asia	\$37.6B	\$15.9B	\$0.3B	\$53.8B
Rest of World	\$7.4B	\$4.5B	\$1.7B	\$13.7B

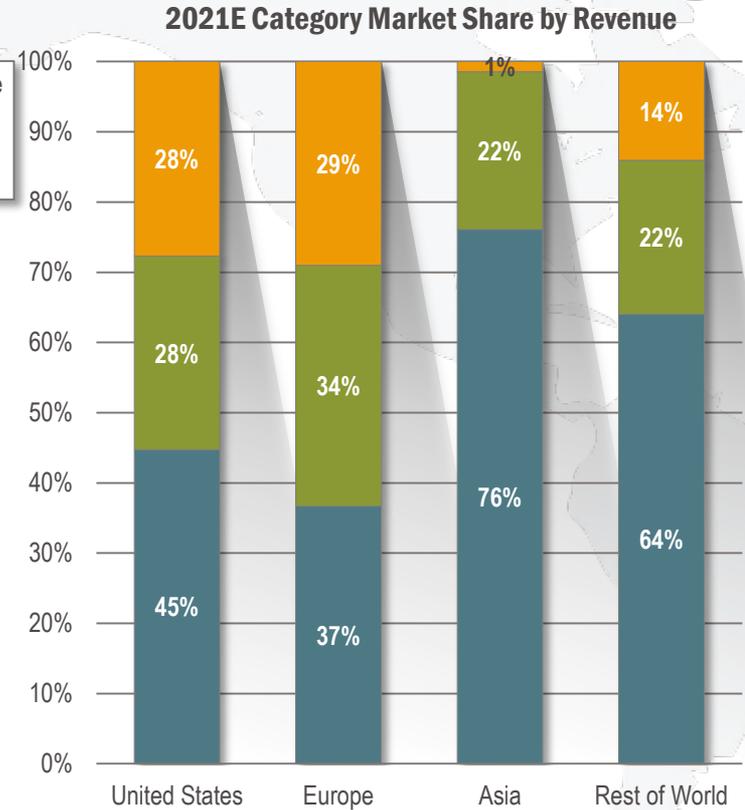
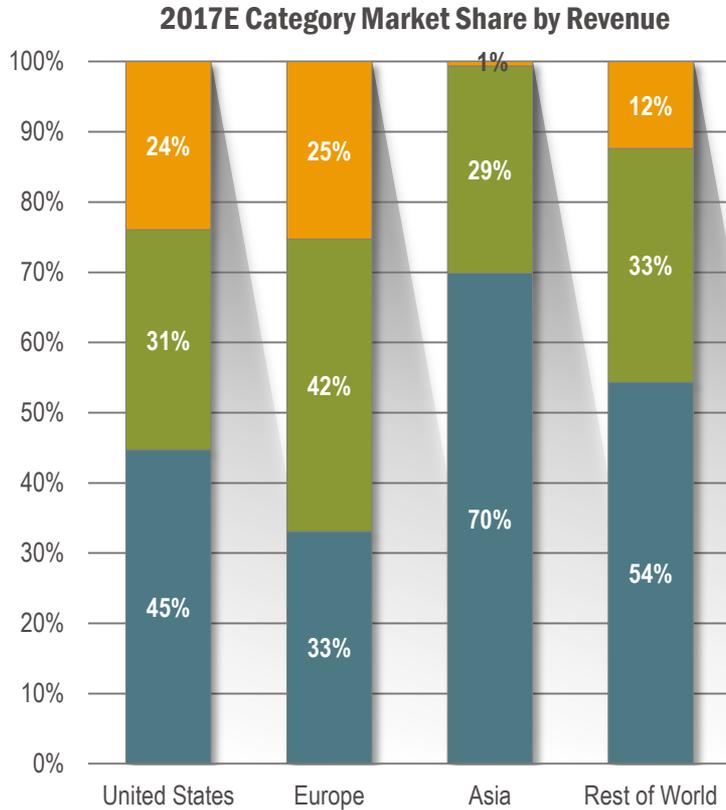
2021E Revenue by Category & Territory



Territory	Mobile	Digital PC	Digital Console	TOTAL
United States	\$13.6B	\$8.4B	\$8.4B	\$30.4B
Europe	\$10.4B	\$9.7B	\$8.2B	\$28.2B
Asia	\$54.7B	\$16.1B	\$1.0B	\$71.9B
Rest of World	\$16.0B	\$5.5B	\$3.5B	\$25.0B



'17E – '21E REVENUE BY TERRITORY & CATEGORY – MARKET SHARE





2017E DIGITAL SALES BY MONETIZATION SCHEME

2017E DIGITAL GAME SEGMENTS DASHBOARD

United States

		Virtual Goods	Paid Downloads	Advertising	Subscription	
Mobile	iOS	\$5,755 M	\$104 M	\$744 M	\$66 M	\$11,469 M
	Android	\$4,054 M	\$47 M	\$575 M	\$38 M	
	Other OS	\$75 M	<\$1M	\$9 M	\$1 M	
	Feature phones	-	-	-	-	
Digital PC		\$5,098 M	\$2,231 M	\$322 M	\$403 M	\$8,054 M
Digital Console	Microsoft Xbox Live	\$1,519 M	\$695 M	\$69 M	\$649 M	\$6,150 M
	Sony PlayStation Network	\$1,895 M	\$442 M	\$91 M	\$599 M	
	Nintendo eShop	\$65 M	\$127 M		<\$1M	
	Total	\$18,461 M	\$3,647 M	\$1,811 M	\$1,754 M	\$25,673 M



2017E DIGITAL GAME SEGMENTS DASHBOARD

Europe

		Virtual Goods	Paid Downloads	Advertising	Subscription	
Mobile	iOS	\$2,519 M	\$26 M	\$308 M	\$29 M	\$6,278 M
	Android	\$2,728 M	\$20 M	\$325 M	\$26 M	
	Other OS	\$261 M	\$1 M	\$33 M	\$2 M	
	Feature phones	-	-	-	-	
Digital PC		\$4,306 M	\$3,026 M	\$134 M	\$435 M	\$7,901 M
Digital Console	Microsoft Xbox Live	\$388 M	\$142 M	\$32 M	\$273 M	\$4,796 M
	Sony PlayStation Network	\$2,537 M	\$526 M	\$116 M	\$699 M	
	Nintendo eShop	\$34 M	\$50 M		<\$1M	
	Total	\$12,773 M	\$3,791 M	\$949 M	\$1,464 M	\$18,976 M



2017E DIGITAL GAME SEGMENTS DASHBOARD

Asia

		Virtual Goods	Paid Downloads	Advertising	Subscription	
Mobile	iOS	\$17,737 M	\$183 M	\$2,171 M	\$203 M	\$37,574 M
	Android	\$15,018 M	\$111 M	\$1,792 M	\$145 M	
	Other OS	\$126 M	\$1 M	\$16 M	\$1 M	
	Feature phones	\$57 M	\$9 M	\$5 M		
Digital PC		\$14,278 M	\$555 M	\$317 M	\$714 M	\$15,864 M
Digital Console	Microsoft Xbox Live	\$5 M	\$1 M	\$3 M	\$2 M	\$341 M
	Sony PlayStation Network	\$123 M	\$23 M	\$6 M	\$57 M	
	Nintendo eShop	\$39 M	\$82 M		<\$1M	
	Total	\$47,382 M	\$965 M	\$4,311 M	\$1,121 M	\$53,780 M

