
From: David Hampton </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9A520AFFB0DE4014A9414763A9D35C25-DAVID HAMPT>
To: Gaming LT
CC: Angela Mills; Bo Goodrich (HE/HIM); Chris McKillop; Hoi Vo; Justin Fung; Kate Luu; Kevin Gammill (HE/HIM); Jason Ronald
Sent: 5/5/2022 11:01:29 PM
Subject: SLT: Biannual Strategy Review 2205 Notes
Attachments: Gaming CSA -- SLT Strategy Review 2205 -- vFinal.docx; Gaming CSA -- Strategy Review 2205 -- Discussion Materials vFinal.pdf

Team –

Rich discussion today with Satya and the SLT. Thank you to Jason, Kareem, Phil and Sarah for representing us.

Below my signature, you'll find my notes from the meeting. In the interest of brevity, I've focused primarily on Q&A and pointed side discussions, organized by the deck's sections. I have noted action items in red.

Additionally, I've attached the final versions of both the pre-read and the discussion materials, for your convenience.

Let me know if you have questions.

Thanks!

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Gaming Strategy & Research
O: 425.705.8645 | E: dhampton@microsoft.com



Read & Discuss Living Whitepaper
<no discussion>

Fortnite Announcement

Satya Nadella (SN): Do players login?

Kareem Choudhry (KC): Yes, backed by Microsoft MSAs. Further, up to this point, xCloud has served to support our subscriptions business. But with Fortnite, we are extending to free-to-play games, backed by our Store.

SN: Stats?

KC: We launched 4 hours. We have 100K users so far, with 74% positive sentiment.

SN: What is Epic's sentiment?

KC: More bullish now on xCloud than Nvidia. Epic incorporated our tech into UE5, which will be an onramp to our cloud for future titles built with UE5.

Amy Hood (AH): Will this partnership with Fortnite generate revenue?

Tim Stuart (TS): Yes. Very early, but converting at ~15%, in line with console.

SN: We bear the costs to stream?

Sarah Bond (SB): We do, but with high monetization.

SN: At 88/12 store margins, where does it net us on an hourly basis?

SB: We believe neutral. So this is about learning for us.

AH: Probably breakeven.

TS: Breakeven would be ~\$0.40 of revenue per hour.

SB: That's right...strategic value to drive the player habit with one of the most played games in the world.

SN: So at 88/12, that means we need to optimize our cloud, etc. such that our cost-to-serve is <12 points, leaving us with margin?

SB: That's right. We want to split out the components of the value we are offering developers (billing, streaming, etc.) to give us monetization flexibility.

SN: We should use our raw Azure compute GM/hour as a floor.

Phil Spencer (PS): We should look at a blended view on a per partner basis vs. on a per distribution basis, to best utilize our scale.

AH: we should think about this on the user level. We subsidize on the console and on the cloud. How much subsidizing per human.

PS: I want store to be our meter.

AH: That's right, it's a success-based meter.

ACTION ITEM: @Tim Stuart Structured evaluation of our CAC model, across device subsidies, cloud subsidies, etc. The notion of CAC optimization in a device/cloud ecosystem has come up in previous CSA review. Happy for the Strategy team to lean in here, if helpful.

Preamble – Phil

SN: If I look at Apple, Google, and Valve, I see a \$30-40B store opportunity, is that right? So our opportunity is to address that TAM?

PS: That's right

The Future of Gaming at Microsoft – Kareem

<no discussion>

The Future of Gaming at Microsoft – Jason

SN: What is our big/unifying bet? Is it that everything starts with the cloud? We should use that big bet to drive systems architecture clarity. Examples: what would the graphics or input innovation look like in this context? This goes back to our CAC discussion earlier in the meeting.

Jason Ronald (JR): That's right Just to touch on input, we need deep immersion (e.g., console with a controller) with broad availability (e.g., touch on a mobile device).

SN: Is our future really just xCloud?

KC: We need to win on both depth (core gamers) and breadth (xCloud).

SN: The core of our silicon is in a data center or a console?

JR: We think about how our silicon scales across devices, from low end devices up to cloud

Panos Panay (PP): There are synergies with what we are doing.

PS: We have to make a call on silicon in the next 6 months.

SN: Today, we have 3 workloads xCloud, Win365, Mesh ... my dream is to have standard Azure parts to power all 3 workloads, with fungibility across. Then at the edge, it needs to be hybrid that is common across next gen HoloLens, Xbox, and Win365. We can do this.

PS: That's right. I'm not sure if Mesh and xCloud are different.

SN: That's right! It's all a game. I don't want the hardware to be different.

PS: I think that's true at the platform level too, not just at the hardware level.

<regarding thin OS>

SN: Have you looked at Win3?

PP: I'll walk Phil & Jason through it. You can leverage our work.

Action Item: @Jason Ronald to follow up with Panos re: Win 3. Include others from Team Xbox, as appropriate.

PP: Where are developers heading on ARM vs. x65?

JR: The developer ecosystem is familiar with x64. Inertia says it stays on that path. But performance gains, sustainability, and costs difference mean that we should do the diligence on ARM. We need to finalize our decision criteria so that we can make a decision by end of this CY.

SN: As I look at this, we have 4 systems that need to compose: (1) hybrid AI, (2) AI-assisted graphics subsystem, (3) input stack, and (4) hybrid video. We are building 4 types of computers: (1) cloud everything, (2) a hybrid Xbox, (3) hybrid Windows, and (4) hybrid HoloLens. We need to bring the company's systems talent together to align on a unified vision. We can't go from big idea to big idea. We need a single big idea to rally the company around.

Action Item: @Phil Spencer in coordination with Panos, Kevin, etc., bring together the company's systems talent to align on the "big idea", described above.

 AGENDA FOR TODAY

Time Agenda

10 minutes Read & Discuss Living Whitepaper

10 minutes Fortnite Update

70 minutes Special Topic: The Next Generation of Gaming at Microsoft

FORTNITE



IGN THURSDAY, MAY 5
 Store News Videos Reviews Wikis Playlist More

FORTNITE

Xbox Cloud Gaming Brings Fortnite to PC and iOS Devices for Free

Here's how to play Fortnite on your iPhone.

By Matt Kim | Posted: 5 May 2022 9:00 am

Polygon GAMING ENTERTAINMENT REVIEWS FEATURES GUIDES

GAMES WHAT'S NEW

Fortnite will be free on iPhone again thanks to Xbox Cloud Gaming

This is the second browser-based Fortnite alternative for mobile players

By Andrew Ginlin | @AinlinG | May 5, 2022, 10:06pm EDT

Thurrott The Home for Tech Enthusiasts: News, Reviews & Analysis

Home Windows 11 Mobile Cloud Microsoft 365 Home Digital Media Xbox Podcasts Paul Premium Content Forums

Home / Fortnite Becomes First Free-to-Play Game on Xbox Cloud Gaming

Fortnite Becomes First Free-to-Play Game on Xbox Cloud Gaming

Posted on May 5, 2022 by Laurent Giret in Games, Project xCloud, Xbox, Xbox One, Xbox Series S, Xbox Series X with 0 Comments

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Tim Sweeney
 11.9K Tweets

Tim Sweeney
 @TimSweeneyEpic
 Epic Games Founder, CEO.
 epicgames.com | Joined August 2013
 264 Following 186.6K Followers

Tweets Tweets & replies Media Likes

Tim Sweeney @TimSweeneyEpic · 9m
 Monumental news everyone! Fortnite is now available to play FOR FREE streaming to web browsers on iPhone, iPad, and Android via Xbox Cloud. No subscription required, no 30% Apple tax.

**PLAY FORTNITE AT
 XBOX.COM/PLAY
 FOR FREE**

news.xbox.com
 Play Fortnite on iOS, iPadOS, Android Phones and Tablets, and Windows...
 As part of our mission to bring the joy and community of gaming to players wherever they are and to make gaming more accessible to ...

EUROGAMER

PC PlayStation Xbox Nintendo Digital Foundry News

Home News Fortnite

Fortnite joins Xbox Cloud Gaming, giving iPhone users another way to play

No subscription necessary.

News by Tom Phillips | Deputy Editor
 Published on 5 May 2022

CNET Your guide to a better future

Gaming

Epic's Fortnite Now Free To Play on Microsoft's Xbox Cloud Gaming for Mobile, Desktop, Console

The tech giant is experimenting with offering free-to-play games through its streaming service.

By Ian Sherr | May 5, 2022 9:00 a.m. PT | 2 min read

G News Videos Reviews Staff Picks Deals Games Entertainment

Fortnite Is Playable On iOS Again With Xbox Cloud Gaming

Fortnite is the first free-to-play game on Xbox Cloud Gaming, and it's out right now for no cost.

By Eddie Mekuch on May 5, 2022 at 9:17AM PDT | Comments

FORTNITE





Gaming CSA: Strategy Review May 2022

Gaming Leadership Team

Achieve industry leadership by FY2030

TOP COMPANIES IN GAMING BY REVENUE

Company	Headquarters	Key Platform Assets	Key Content Assets	2021 Revenue ¹
Tencent	China	WeChat, QQ, Tencent Store	League of Legends, Honor of Kings	\$33 billion
Sony	Japan	PlayStation	Spiderman, God of War, Gran Turismo	\$25 billion
Google (Alphabet)	U.S.A.	Android, YouTube, Google Play	N/A	\$18 billion
Microsoft	U.S.A.	Xbox, Windows	Minecraft, Halo, Forza, Elder Scrolls	\$16 billion
Apple	U.S.A.	iPhone, iOS App Store	N/A	\$15 billion
Nintendo	Japan	Switch	Mario, Zelda, Pokémon	\$15 billion
Netease	China	N/A	Westward Journey	\$10 billion ²
Activision Blizzard	U.S.A.	Battle.net (PC store)	Call of Duty, World of Warcraft, Candy Crush	\$8 billion
Electronic Arts	U.S.A.	Origin (PC store/service)	FIFA, Madden, Battlefield, Need for Speed	\$7 billion
Valve	U.S.A.	Steam (PC Store)	DotA, Counterstrike, Half Life, Team Fortress	\$7 billion ³
All Others				\$87 billion

Source: Consensus analyst estimates, public financial disclosures, Microsoft analysis.






¹: Excludes revenue from cloud infrastructure, developer tools, and advertising networks.

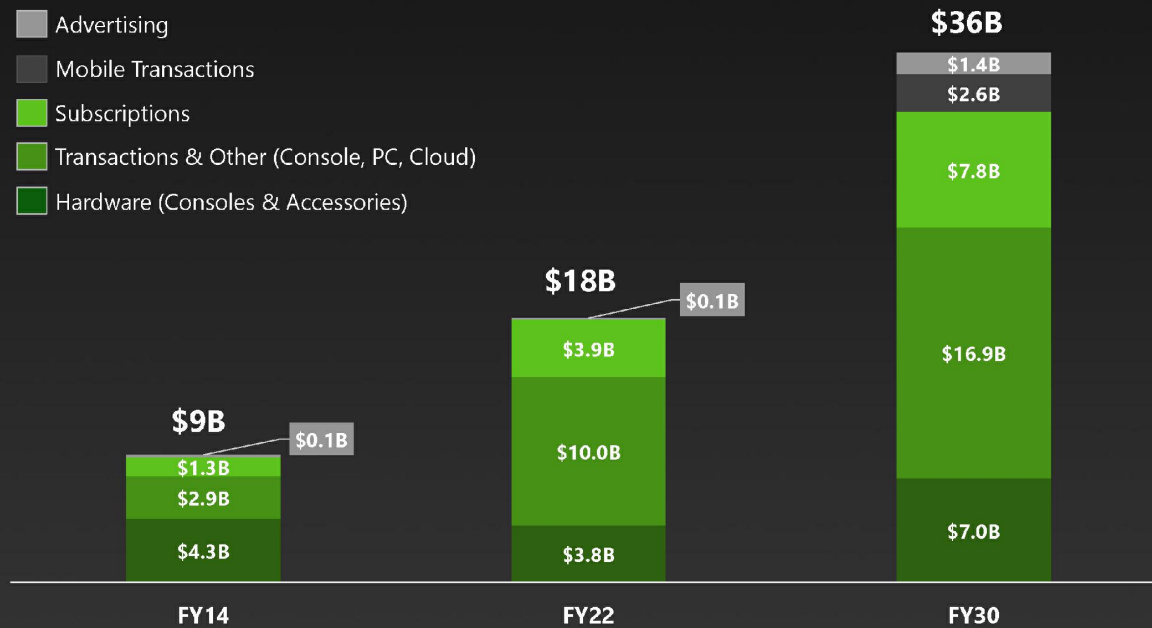
²: Netease generates significant revenue from publishing and operating Western games in China.

³: Microsoft estimate; Valve is privately held.

 OUR PATH TO LEADERSHIP IN GAMING

Gaming CSA Revenue




-  Advertising
-  Mobile Transactions
-  Subscriptions
-  Transactions & Other (Console, PC, Cloud)
-  Hardware (Consoles & Accessories)



CAGR

FY14-FY22	FY22-FY30
+10%	+9%
-6%	+41%
0%	+59%
+15%	+9%
+17%	+7%
-1%	+8%

THE GAMING INDUSTRY: OUR VISION OF 2030

	THEME	2030 EXPECTATIONS
	CONTENT	<ul style="list-style-type: none">• Larger, richer, more dynamic open worlds with increased technical demands• New game genres and types, unlocked through player growth and technical innovation
	COMMUNITY	<ul style="list-style-type: none">• Player: Increasingly diverse player community, playing ubiquitously across devices• Creators: Increasingly diverse and globally distributed creator community, empowered by tools & technology that reduce the cost and complexity of building and managing games.
	CLOUD	<ul style="list-style-type: none">• Seamless hybrid compute, spanning cloud to edge• Rich, immersive experiences across all device types

MEETING THIS CHALLENGE WILL REQUIRE A NEXT GENERATION TECHNOLOGY PLATFORM



The Next Generation of Gaming at Microsoft

OUR HISTORICAL APPROACH TO GENERATION DEVELOPMENT

CONSOLE DRIVEN

- Console first and primary
- Xbox specific silicon approach

VERTICALLY FOCUSED

- Working largely independently
- Vertical alignment of hardware and software

Initially far apart, now converging across generations



FROM "ZERO MICROSOFT" TO "ONE MICROSOFT"

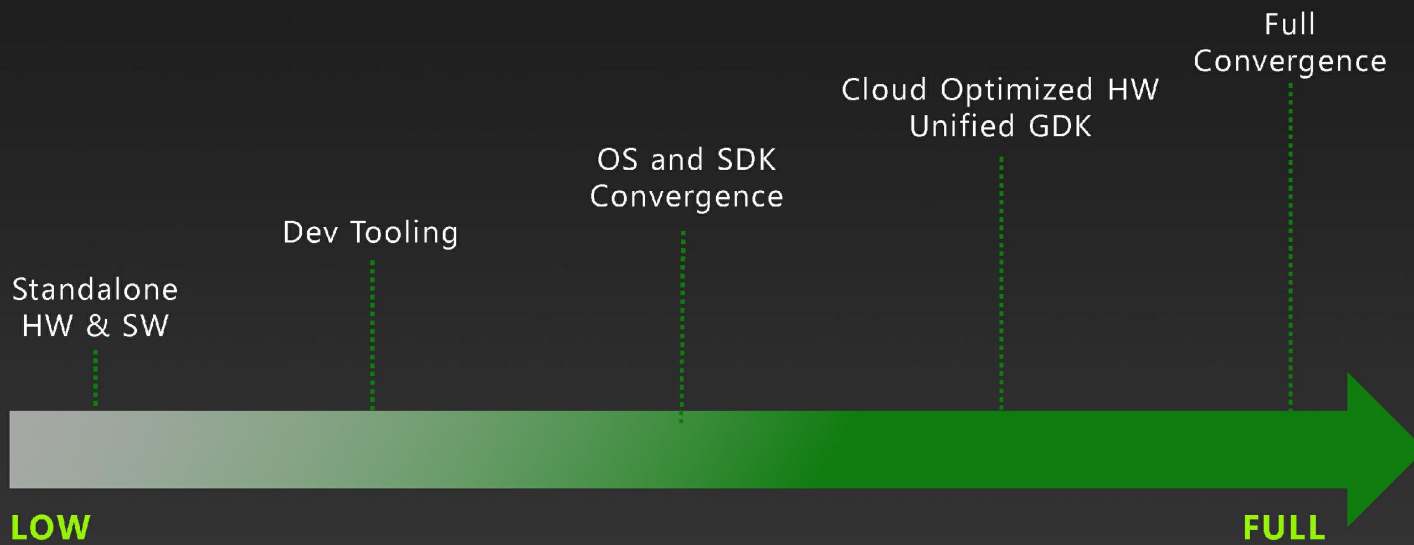
XBOX
CY 2001

XBOX 360™
CY 2005

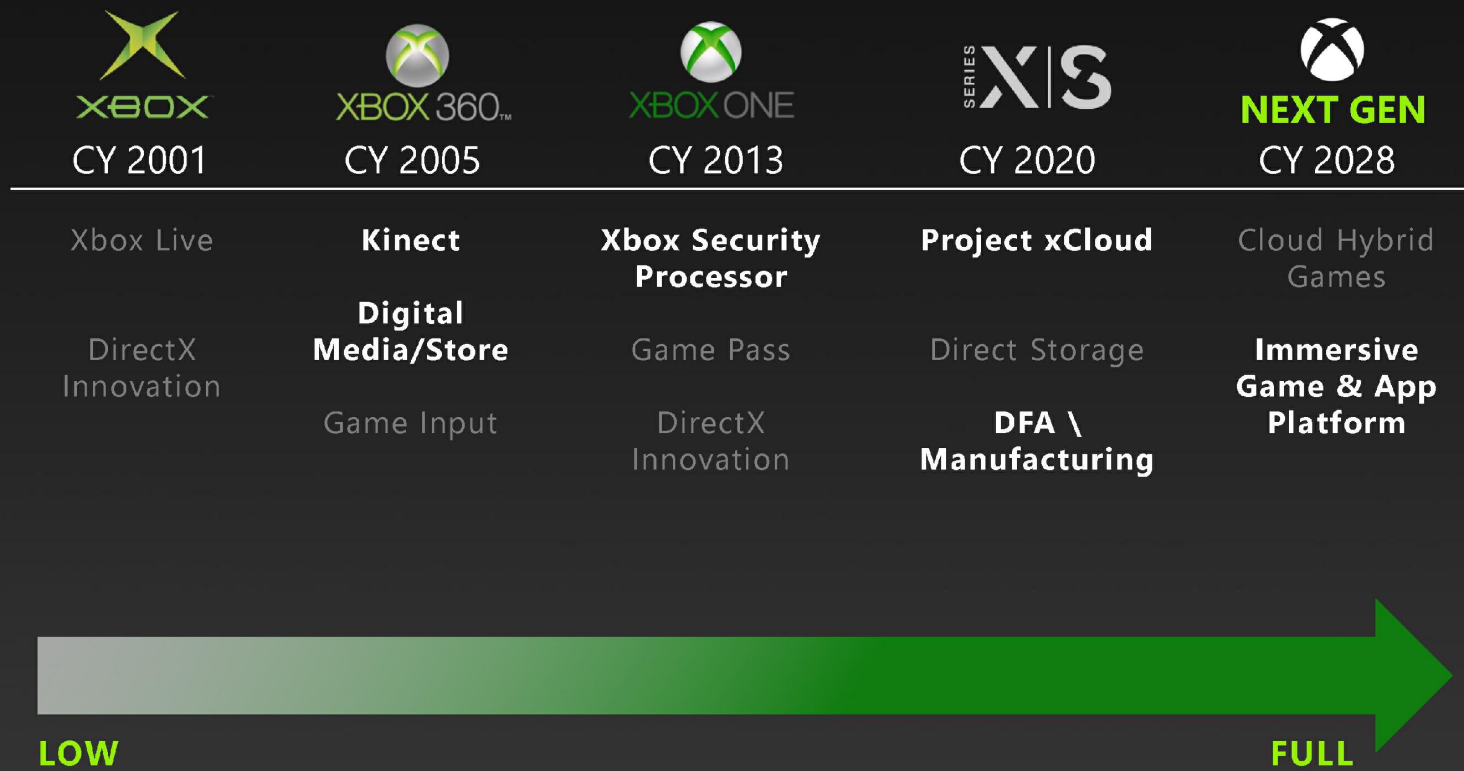
XBOX ONE
CY 2013

SERIES X|S
CY 2020

NEXT GEN
CY 2028



 EACH GENERATION OF XBOX HAS ALSO BROUGHT NEW INNOVATIONS TO MICROSOFT



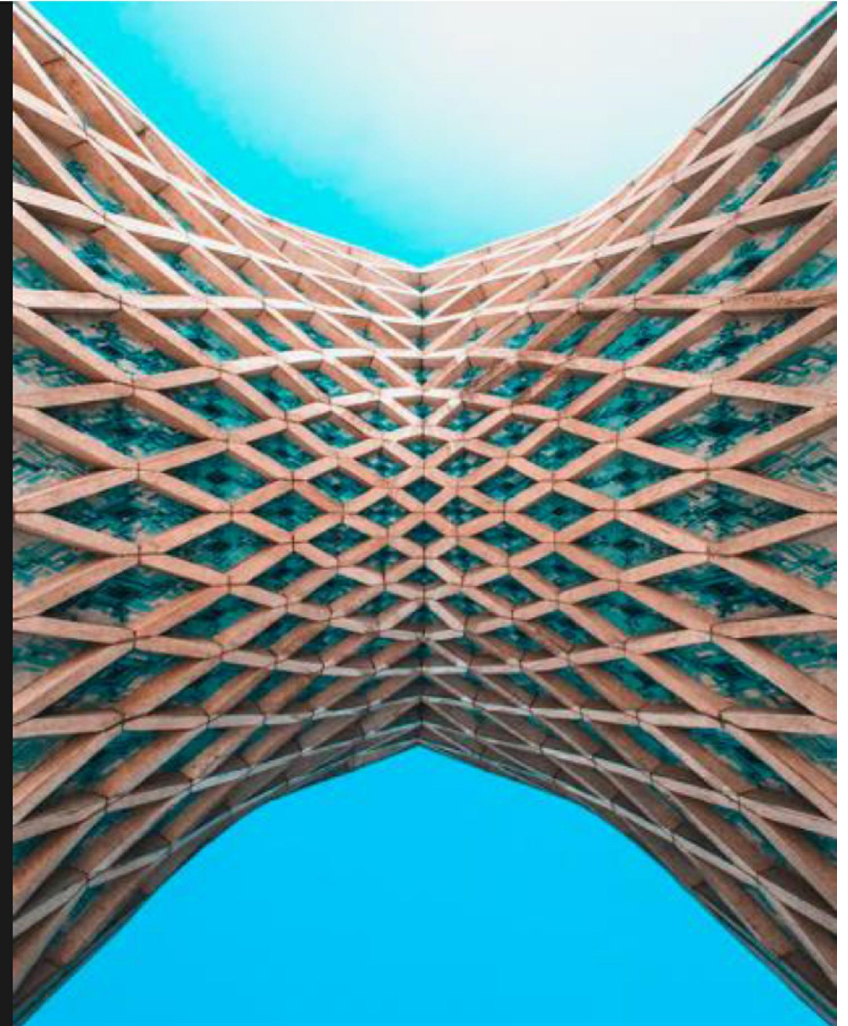
 TRANSCENDING THE CONSOLE GENERATION

A new generation of Gaming at
Microsoft inspires us to ask:

**What can Microsoft and
Gaming do *together*?**

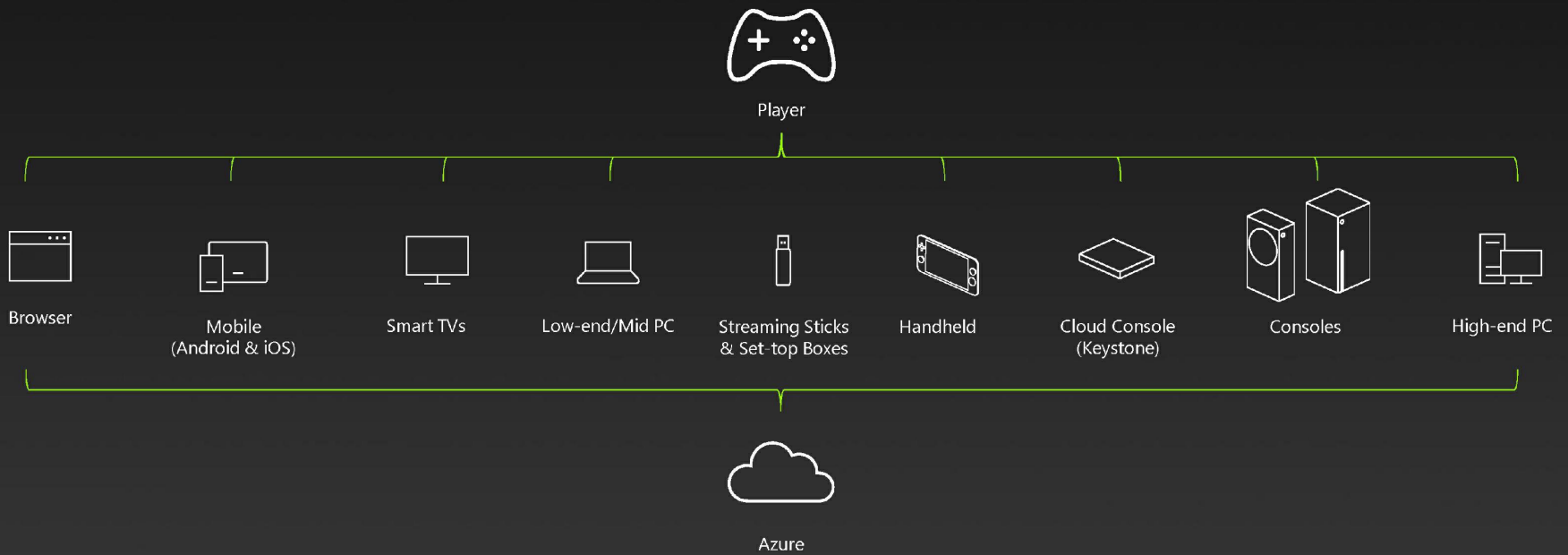
Generations manifest across:

Physical world | Technology Stack | Creator Platform



 A ONE MICROSOFT LAUNCH

NOT A CONSOLE GENERATION. AN ECOSYSTEM GENERATION.



 EARLY THOUGHTS ON NEXT GENERATION OF GAMING

OPPORTUNITIES

**SCALABLE HW
ARCHITECTURE**

**INPUT
INNOVATION**

ML & AI

**CLOUD NATIVE /
ENHANCED**

**GRAPHICS
INNOVATION**

AR / VR

CHALLENGES

**SILICON
PERFORMANCE &
COSTS**

COMPATIBILITY

**RESOLUTION &
FRAME RATE**

 KEY TECHNOLOGICAL ENABLERS FOR THIS VISION



Cohesive Hybrid Compute

Cloud-to-Edge architecture across Silicon, Graphics, and OS enabling ubiquitous play



AI and ML Enablement

Optimization and acceleration of game performance, operations, and development for players and creators



Creator Platform

Open and extensible game and immersive app development platform

COHESIVE HYBRID COMPUTE

OUR VISION

Develop a next generation hybrid game platform capable of leveraging the combined power of the client and cloud to deliver deeper immersion and entirely new classes of game experiences. Optimized for real time game play and creators, we will enable new levels of performance beyond the capabilities of the client hardware alone.

KEY STRATEGIC DECISIONS & INVESTMENTS

SILICON Q1 CY23

- CPU: ARM64 vs x64 (Zen 6)
- CPU: Balance of Big / Little CPU Cores
- GPU: Co-design w/ AMD or license AMD IP (Navi 5)
- NPU: Balancing the desire for flexible, programmable ML silicon versus high performance silicon for targeted workloads
- Forward compatibility

GRAPHICS INNOVATION

- Next Gen DirectX Raytracing
- Dynamic Global Illumination
- Micropolygon Rendering Optimizations
- ML Based Super Resolution
- Extensibility Model for Faster Iteration and Innovation

THIN OS

- Lacking Thin OS for < \$99 Consumer or Handheld Devices

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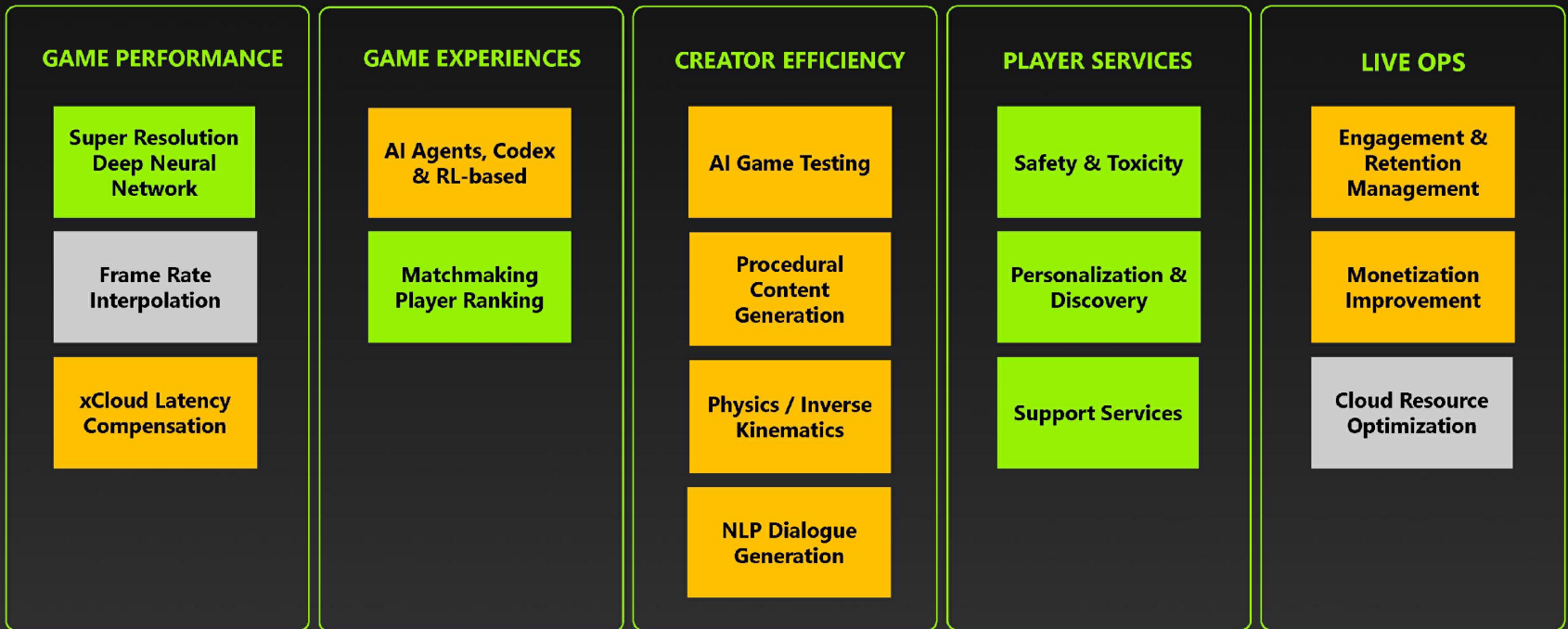
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- Extensibility Model for Faster Iteration and Innovation

THIN OS

- **Lacking Thin OS for < \$99 Consumer or Handheld Devices**

 NEXT GENERATION GAMING POWERED BY AI & ML

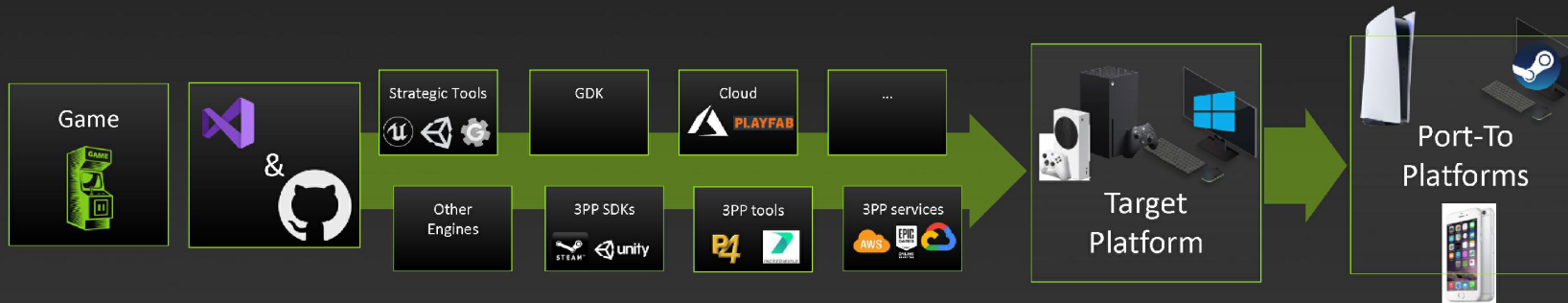


 Established Projects in Microsoft Gaming  Research & Proof of Concept  Fertile Future Ideation

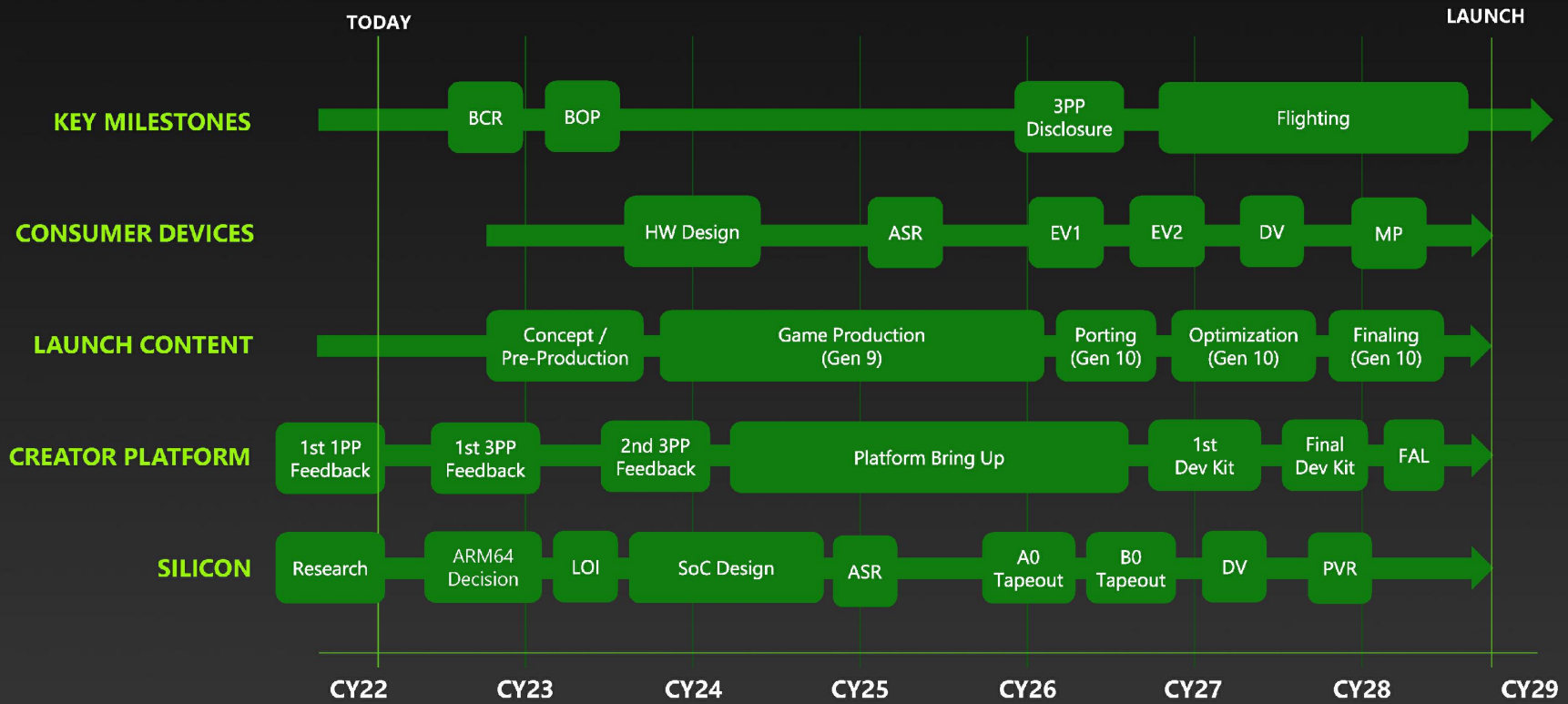
Open & Extensible Platform

Streamline the development pipeline, focusing on providing an open ecosystem and pluggable tools so that developers can focus on finding the fun in their games and not on plumbing.

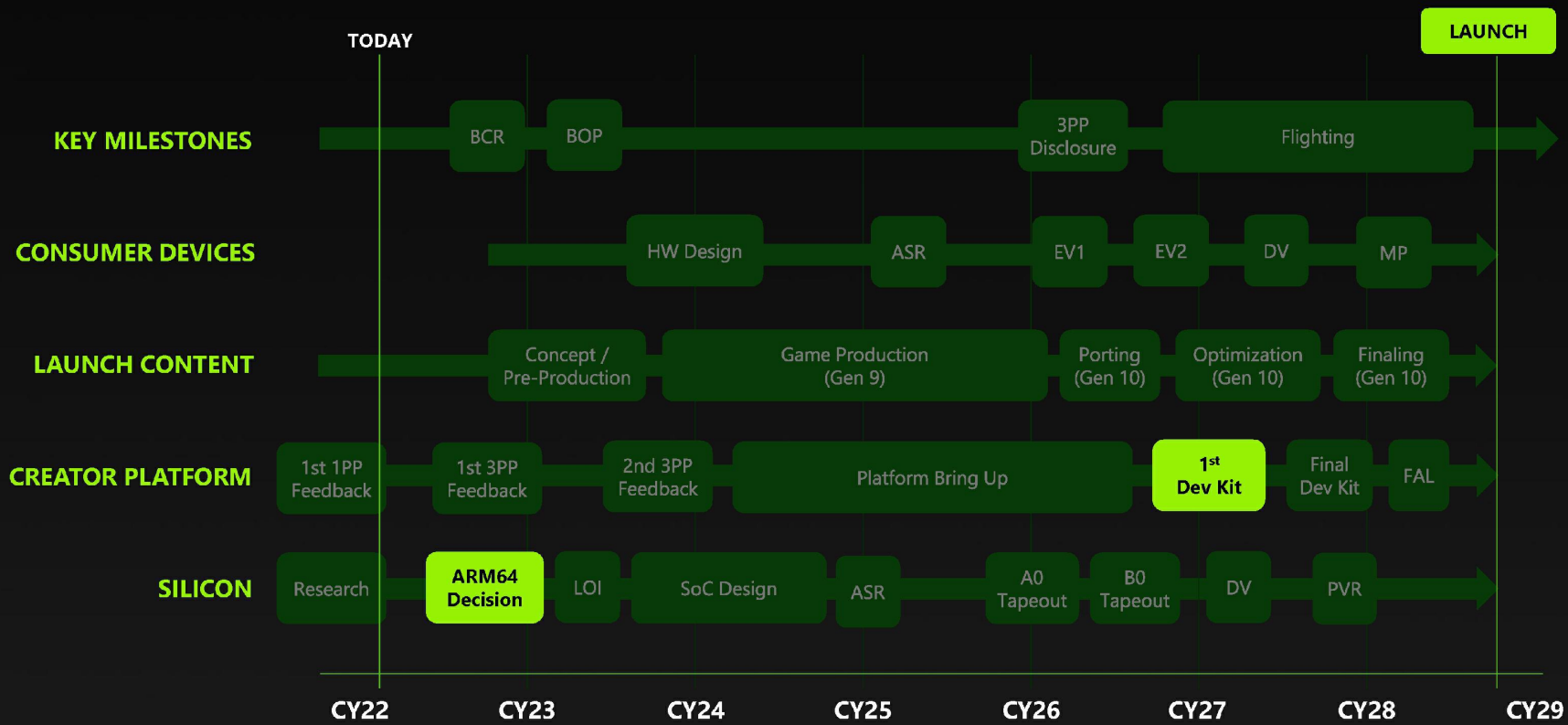
- Visual Studio, DirectX, GitHub and other 'foundational tools' as top of funnel
- Make the GDK the one-stop-shop for building games on Microsoft platform, including other PC ecosystems
- Provide extensible tools that work best in our ecosystem, but are extensible into others
- Plugins for strategic engines, enabling our services and improving workflows
- Make it easier to deliver a title onto multiple platforms with minimal additional effort

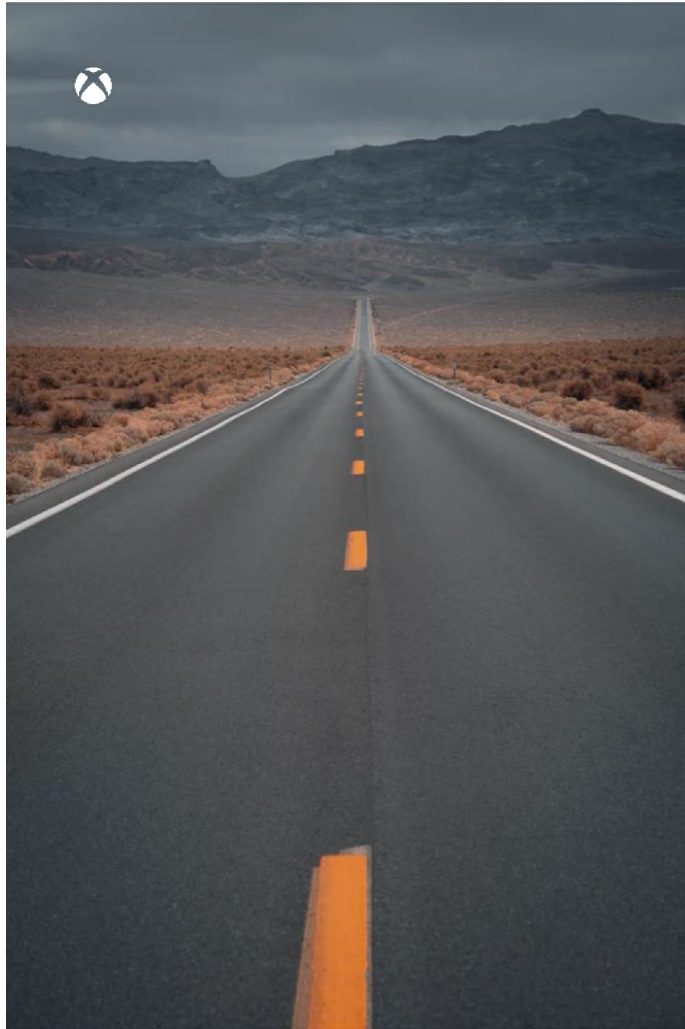


 THE JOURNEY HAS ALREADY STARTED...



THE JOURNEY HAS ALREADY STARTED... AND DESIGN CHOICES ARE BEING MADE






*If you want to go fast,
go alone.*

*If you want to go far,
go together.*

-African Proverb

 WHERE DO WE GO NEXT?

WE NEED YOUR ALIGNMENT IN THE NEXT 6-9 MONTHS



**SILICON
ROADMAP**
(CPUs, GPUs,
NPUs)



THIN OS



**TEAMS (IC3) x
XBOX
COLLABORATION**



**1P HARDWARE
FOR TAM
EXPANSION**

Questions?



Appendix





NEXT GEN PLATFORM FOR IMMERSIVE APPS AND GAMES

■ Xbox/MS Solution
□ Industry Solution

Identity	Profile	Matchmaking	Communications	Commerce	Safety & Moderation	Game Services
Personal Identity (MSA)	Profile Metadata	Matchmaking	Text Chat	Payment Instruments	Voice & Text Moderation	Stats & Leaderboards
Professional Identity (AAD)	Friend Lists	Session Directory	Real Time Voice Communication	In Game Economy	Report / Block / Mute	Game Saves
Account Linking / Federation	Avatar Metadata	Online Presence	Party Chat	Entitlement Store	Enforcement Tools	Achievements
				Crypto Wallet	Real Time Voice Moderation	Custom Game Services

Live Operations			
Content Publishing	Analytics	Experimentation	Personalization

Metaverse Editors	Developer Tooling	3D Engines	Middleware		VR / XR
Mesh Toolkit	Visual Studio	Unreal / Unity	Wwise / Fmod (Audio)	Twitch / YouTube (Broadcasting)	WMR
UGC	GDK	Custom Engines	Havok (Physics)	Discord (Social)	OpenXR
Avatar Runtime	PIX	Unity & UE Extensions	Simplygon (LoD)	Adobe / Autodesk (Content Creation)	WebVR Hololens

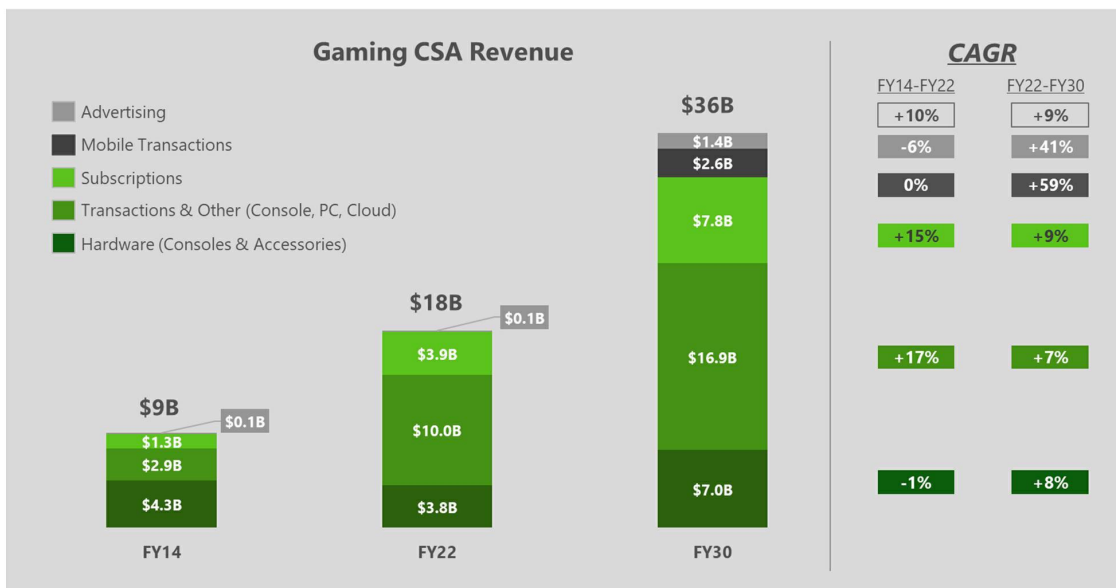
Client Runtime Services			
Content Packaging	Content Delivery / Update	Persistent Local Storage	Anti Tamper

1 | AMBITION OF THE CSA

As Team Xbox, we are on a mission to bring the joy and community of gaming to everyone on the planet. We deliver this vision by putting players at the center of the Xbox ecosystem, enabling you to play the games you want, with the people you want, anywhere you want.

We endeavor to reach industry leadership, outside of China, by FY2030. This implies doubling our total revenue during that timeframe (Figure 1). Achieving this objective requires both continued success in our core business and expansion into new opportunities, to reach new players, with a breadth of gaming experiences, supported by a diversity of business models.

Figure 1: Gaming CSA Revenue Drivers (FY14-FY30)



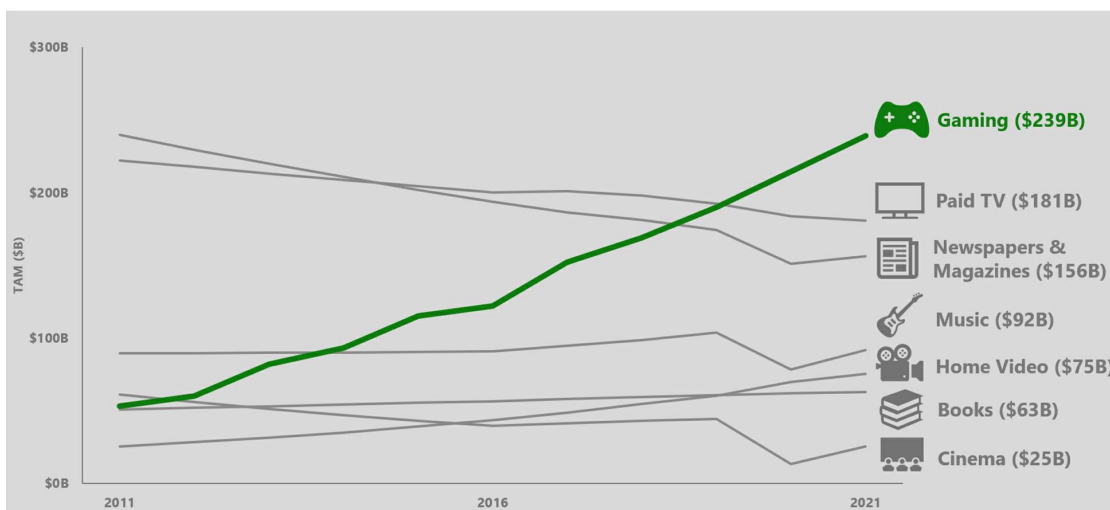
2 | MARKET & OPPORTUNITY

Gaming remains the largest and fastest growing segment in media and entertainment, reaching \$239 billion in 2021¹. The game industry has seen sustained double-digit growth for more than a decade. Today, about 1 in 3 people in the world play video games, nearly 3 billion in total². Over the next decade, we project total players to exceed 4 billion globally.

¹ Internal Microsoft analysis: 2021 Game Industry Sizing

² Internal Microsoft analysis: 2021 Player Value

Figure 2: 2021 Media and Entertainment Categories Growth³



Game industry growth has been fueled by the confluence of 3 durable trends:

1. Proliferation of gaming-capable devices, led by mobile and broadband/5G penetration. Gaming, once relegated to arcades and enthusiast hardware like consoles and performant PCs, is now broadly available across a host of devices. Mobile devices, the most widely adopted computing form factor, have proven a particular catalyst for availability.
2. Growth in quantity and diversity of games and creators. With the explosion of gaming addressable devices—including mobile devices, which have relatively low entry barriers for creators—game creation has been greatly democratized, leading to a significant increase in game variety, attracting a much larger and more diverse base of players.
3. Diversification of business models, fueling adoption and monetization. 20 years ago, most games were exclusively available for purchase. Today, pay-to-play⁴ games account for 20% of total revenue, nearly \$45 billion. By contrast, free-to-play⁵ games account for 70% of revenue, including 66 percentage points from in-game purchases and 4 percentage points from in-game advertisements¹. By removing player adoption barriers, free-to-play greatly widens the sales funnel while simultaneously enabling efficient monetization. Similarly, content subscriptions enable players to discover and try new games, driving increased post-sale monetization. Subscription is among the fastest growing business models in the industry, +15% annually.

³ For Gaming, internal Microsoft analysis: 2021 Game Industry Sizing. For all other segments, PricewaterhouseCoopers "Global Entertainment and Media Outlook, 2021-2025". Home video includes DVDs, video-on-demand, streaming services (e.g., Netflix). Music includes CDs, digital purchases, subscription services, and ticket sales.

⁴ Pay-to-play games have an initial pay gate required to access and play the game. These games are monetized via initial game sale and game expansions.

⁵ Free-to-play games have no initial pay gate to acquire or play the game. These games are monetized via in-game purchases and in-game advertisements.

The game industry is economically efficient, aligning monetization with engagement. We observe generational tailwinds that will continue to increase player engagement, fueling sustained market growth. For example, Americans over 60 report a more than 2-to-1 preference for television to games⁶. That preference is inverted for Americans ages 18 to 25⁶. We conclude that gaming continues to have long-term growth potential and will remain an attractive investment opportunity for Microsoft for the foreseeable future.

North America (\$57 billion) remains the largest region, as measured by software & services revenue. Asia—across China and Rest of Asia—accounts for nearly half of total software & services revenue and more than half of worldwide players^{1,2}. To summarize:

Figure 3: 2021 Game Industry Software & Services by Region (excludes Game Video, Dedicated Hardware)^{1,2}

Region	Revenue	Year on Year	Players	Average Revenue per Player
N. America	\$57 billion	+12%	212 million	\$267
China	\$51 billion	+6%	686 million	\$75
Rest of Asia	\$41 billion	+7%	930 million	\$44
Europe	\$39 billion	+7%	409 million	\$94
Rest of World	\$17 billion	+18%	724 million	\$23

At a segment level, Console remains a key driver of software and services revenue (\$49 billion) along with Mobile (\$116 billion) and PC (\$36 billion)¹. Software & services revenue, the primary measure of industry health and >90% of total industry revenue, saw growth accelerate in 2020, fueled by COVID-19 demand. In 2021, growth rates reverted to the mean, growing 10% year on year from 2020's record high, in line with our projections. To summarize:

⁶ Limelight Networks

Figure 4: 2021 Game Industry Software & Services by Segment (excludes Dedicated Hardware)^{1,2}

Segment	Revenue	Year on Year	Player Penetration	Average Revenue per Player
Mobile	\$116 billion	+15%	94%	\$42
Console	\$49 billion	-1%	21%	\$80
PC	\$36 billion	+5%	42%	\$29
Video	\$14 billion	+29%	n/a	n/a
Browser	\$4 billion	+2%	36%	\$4
Cloud	\$1 billion	+112%	nm	nm

Importantly, half of the world's 3 billion players game on more than one device, including 1 in 5 who play on all of console, PC, and mobile². To summarize:

Figure 5: 2021 Player Device Adoption²

Mobile	Console	PC	Players	Share
X			1,332 million	45%
	X		37 million	1%
		X	113 million	4%
X	X		143 million	5%
X		X	664 million	22%
	X	X	44 million	1%
X	X	X	627 million	21%

3 | STRATEGY & APPROACH

- 1.
- 2.
- 3.

- 1
- 2
- 3

3.1 | Strategic Thesis

Our perspective on Xbox's growth remains unchanged and is grounded in our worldview. Today, the game industry is largely organized around device ecosystems. This structure runs counter to the

desires and motivations of both players, who want ubiquitous access to their games and friends, and creators, who strive to maximize player reach. The bedrock of our strategy is to invert this paradigm and put the player at the center of our ecosystem—to empower players to “play the games they want, with the people they want, anywhere they want”. Microsoft is well positioned to deliver this vision of ubiquitous gaming given our capabilities in **Content, Community, and Cloud**. We believe driving engagement with more players across more devices with more games powered by a diverse set of business models will enhance the experiences of players and creators, create durable strategic differentiation for Microsoft (see Section 7 for additional detail on our competitive landscape), and fuel further business growth.

To put the player at the center of our ecosystem, we are disaggregating the Xbox platform and extending it across devices, backed by the following “needle moving” investments:

1. **Game Pass**. An innovative content subscription service and our primary platform interface across devices.
2. **Content**. Empowering creators around the world to realize their creative vision and build the differentiated experiences that attract and retain players in our ecosystem.
3. **Xbox Cloud Gaming**. Ubiquitous distribution for our content and services, bringing our ecosystem to more players, on more devices.
4. **Xbox Series S | X + Windows 11**. The best instantiation of our experiences, providing critical subscriber, creator, and content onramps, both native and cloud streamed.
5. **Store**. A modern commerce platform to process transactions, both in-game and out, and manage game entitlements, a foundation for creator success in our ecosystem.
6. **Community**. The fabric of our ecosystem—a safe and inclusive community spanning networks, to meet players where they are and to foster player engagement and differentiation.

3.2 | Team & Culture

At Team Xbox, we believe that when everyone plays, we all win. As our business evolves from a device-centric paradigm to one that orients around players and creators, we are building a team and culture that represents the diverse gaming communities we strive to reach. To achieve this goal, we must embed our values of inclusion in all aspects of our work, broaden our talent pool, and adopt an operating model that can support our business growth. To summarize, we are:

1. **Investing in our people and growing our talent pipeline**. Making Team Xbox an exceptional place to work – where our people feel empowered to be their best selves – is an important part of our culture and long-term talent strategy. This is inclusive of having a compelling employee value proposition, durable career development pathways to attract and retain talent, minimally integrated entities to ensure talent market competitiveness, and expansion of our geographic footprint to accelerate global growth investments. For example, we are growing our Xbox engineering teams in LATAM and our creator ecosystem in India, Africa, and China. Both efforts improve our representation at a global level, while setting the foundation for how we build a successful geographically-distributed workforce model.

2. **Evolving our gaming operating model to support our growth.** As we plan for growth, we will continue to evolve how Team Xbox operates and creates value based on past learnings and best practices. We need to ask and answer, “What needs to be true in our execution plan, operating model, and workforce model to enable Gaming CSA business growth?” Some guiding principles that inform how our teams work together to accelerate our business priorities include:
 - Prioritization of work that aligns with our Xbox strategy, with clear ownership and accountability sitting with teams that have the right capabilities to execute.
 - Scalable processes, tools and technologies that enable responsiveness, consistency, and effectiveness in the way we work.
 - Inclusive mindset that seeks different points of view and ensures key decisions are reflective of diverse perspectives.

3.3

4 | GROWTH: HORIZON 1 (FY2022)

4.1 | Fiscal Year 2022 Priorities

For Fiscal Year 2022, the Gaming Leadership Team has identified 3 growth priorities:

1. **Accelerate Global Xbox Console Growth** – console is our flagship gaming experience and a key driver for Game Pass. We launched Xbox Series S | X to positive reception and strong demand, selling the most consoles ever in a launch month. As we overcome supply limitations this coming year, we must drive Xbox console penetration in our traditional markets and grow share in new geographies. We will accelerate every aspect possible to achieve this including Game Pass catalog growth, game releases, price point, distribution, marketing, and retail.

Key metrics to evaluate success:

- Xbox Console Monthly Active Devices
 - % Market Share of Xbox Series Consoles vs. PlayStation 5
2. **Accelerate Game Pass Growth on PC** – the next immediate frontier for the growth of our business is on PC. Increasing our PC gaming share will be vital for our long-term vision of delivering games to every person on the planet. Game Pass lies at the center of our approach to reach PC gamers, providing compelling day one PC content and a high-quality catalog available both as native software and through cloud gaming. We will accelerate the adoption of Game Pass among PC gamers by providing a solid foundation for PC creator tools, building strong PC experience for

players, and leveraging distribution and marketing opportunities with Windows, OEMs, and cloud gaming on PC.

Key metric to evaluate success:

- Xbox Game Pass PC Monthly Active Users (Ultimate and PC SKU)
- Xbox Game Pass PC SKU Subscribers

3. **Accelerate Growth for Game Creators** – game creators build the experiences at the heart of the Xbox ecosystem. Xbox succeeds when game creators thrive. Ensuring that game creators have the tools and services needed to develop for, publish, and grow on our platforms is paramount. We will strengthen and expand our creator tools, partnerships, and services to ensure the best games are enjoyed by our players, working with new and existing partners. We are also working to position Azure as the preferred cloud solution for game creators, by building on our existing creator and publisher relationships, by developing competitive cloud technology for the game industry, and by commercializing first party game creator tools.

Key metrics to evaluate success:

- Game Creator Revenue from Xbox
- Game Creator Azure Consumed Revenue

4.2 | Fiscal Year-to-Date Progress

Figure 6 reflects actuals and year-on-year growth for the Gaming CSA through Q3, for each business performance metric.

Figure 6: Gaming CSA Performance Update

Metric	FY2022 Q1-3		FY2022	
	Actuals	Year on Year	Budget	Year on Year
Total Revenue	\$13.0 billion	+9%	\$17.7 billion	+13%
Accountability Margin	\$1.5 billion	-25%	\$2.2 billion	0%
Content & Services Revenue	\$9.9 billion	+6%	\$14.4 billion	+16%
Xbox Game Pass Subscribers	24 million	+24%	35 million	+73%
Xbox Monthly Active Users	112 million	13%	117 million	+9%

Figure 7 reflects our targets and year-on-year growth for each FY2022 priority metric, including year-to-date performance through Q3:

Figure 7: Progress Against FY2022 Gaming CSA Priorities

Priority	Metric	FY2022	FY2022 Q1-3	
		Target	Actual	Year on Year
Accelerate Global Xbox Console Growth	Xbox Console Monthly Active Devices	40.7 million	41.6 million	+6%
	Market Share of Xbox Series Consoles ⁷	40%	46%	+9 pts
Accelerate Xbox Game Pass Growth on PC	Game Pass PC Monthly Active Users	12.0 million	3.9 million	+72%
	Xbox Game Pass PC SKU Subscribers	10.0 million	3.3 million	+179%
Accelerate Growth for Game Creators	Game Creator Revenue from Xbox	\$6.3 billion	\$4.0 billion	-2%
	Game Creator Azure Consumed Rev.	\$265.0 million	\$185 million	+66%

5 | GROWTH: HORIZON 2 & 3

- 1.
- 2.
- 3.
- 4.
- 4.1.

5.1 | Our Growth Framework

Increasing player engagement has and will continue to drive growth for our business. Our levers for fostering player engagement align with the durable industry trends discussed in Section 2:

1. **Player Reach** - Extend the Xbox ecosystem to more players, across devices, globally.
2. **Game Breadth** - Attract content of all types by being the platform of choice for all creators.

⁷ Reflects fiscal year target.

3. **Business Model Diversity** - Fuel creator success and player access, by offering the full breadth of monetization models – transactions, subscriptions, advertisements.

5.2 | Horizon 2 & 3 Opportunities

Applying our growth framework to our understanding of the game industry landscape yields three primary long-term growth opportunities:

1. **Game Pass.** Accelerate Game Pass subscriptions across console and PC.
2. **Universal Store.** Extend the Xbox Store from console to build a universal store, spanning devices.
3. **Advertising.** Embrace a diversity of business models to support creator success and reduce access barriers for players, including advertising.

6 | FOR DISCUSSION

During our May 5, 2022 strategy review with the Microsoft SLT, we plan to share our vision for the future of gaming at Microsoft, including key evolutions to our technical ecosystem. Thematically, we will focus the discussion on increasing synergies between Xbox and the rest of Microsoft, including cohesive hybrid compute, AI/ML enablement, and our creator platform. In this context, we will review and discuss key decisions the company faces, as early as FY2023.

7 | APPENDIX: COMPETITIVE REVIEW

7.1 | Defining Our Competitive Set

As our strategy has expanded, so too has our competitive set, which we can group into two classes:

Figure 8: Primary Gaming CSA Competitors by Class

Competitor Class	Primary Firms (listed alphabetically)
Broad Technology	Amazon, Apple, Facebook (Meta), Google (Alphabet), Tencent
Industry Pureplay	Epic, Nintendo, Sony, Valve

In the subsequent sections, we explore each firm’s strategy in gaming, gaming-relevant assets, recent performance, and relevance to Microsoft.

7.2 | Detailed Competitive Assessment

Broad Technology: Amazon

Amazon has diverse gaming-relevant assets, including both dedicated and general-purpose assets (e.g., Amazon.com and Kindle Fire devices). While its consumer and developer motions have been largely distinct to date, Amazon’s subscription cloud-streaming service (Luna) signals an intent to integrate its strategy. By positioning Luna as a “channel” subscription service, Amazon provides publishers with scale and many of the benefits associated with hosting their own streaming service (e.g., direct revenue share, brand recognition, etc.), without the burden of having to maintain their own cloud infrastructure or build a gaming community around the service. Amazon is not only well-positioned to execute this strategy by leveraging existing assets, such as AWS and Twitch, but it is also able to extract more value in the form of increased revenues for complementary services (e.g., Prime, Twitch advertising, etc.). Amazon has focused on developing first party titles through its own Amazon Games studio to attract users, and their recent acquisition of MGM could help with that effort, though the acquisition was likely driven by popular franchises for its Prime Video service.

To summarize Amazon’s primary gaming-relevant assets:

Figure 9: Amazon's Key Gaming-Relevant Assets

Key Asset	Description
Twitch	The leading live video streaming platform in gaming with more than 140 million monthly active users.
Luna	Cloud streaming service with "channels" of games that enable play across mobile, PC, Mac, and Amazon Fire devices. Channels range from a free option for Prime members to themed/publisher-specific channels like a \$4.99/month retro channel and a \$17.99/month Ubisoft+ Channel. Luna's Twitch integration also allows viewers to go directly from watching the stream of a game on Twitch to playing it on Luna, provided the game is available on the service.
Kindle Fire Devices	Android-based tablets, TV plug-ins, and physical TVs (i.e., Fire TV); estimated to have over 50 million monthly active users globally.
Amazon Games	Developer of mobile and PC games. Despite initial failures with big-budget PC games (i.e., <i>Crucible</i> , <i>Breakaway</i>), Amazon Games' latest MMO launches of <i>New World</i> in September 2021 and <i>Lost Ark</i> in February 2022 each logged over 1 million players on launch day.
Open 3D Engine (formerly Lumberyard)	Free-to-use, open-source game engine that integrates AWS services into game production and play. Open 3D Engine is an open-source project managed by the Linux Foundation (LF).
Amazon Prime	Paid subscription service that unlocks access to quick shipping of products, movie streaming, and other services like Amazon Music. 200+ million global subscribers.

Amazon continues to benefit from the rapid growth of livestream content consumption. Twitch had an estimated 24 billion hours watched in 2021, up 45% from an estimated 18.4 billion hours in 2020. To make Luna more compelling for players and creators, Amazon has also been investing in virtualization technology, which allows GPU SKUs to be used as PC gaming VMs more effectively. This results in low-latency, high-fidelity streaming experiences. Finally, Amazon remains a leading gaming retailer globally, particularly as it relates to hardware.

For Microsoft, Amazon is an important retail partner for the hardware component of the Xbox business. However, Amazon Luna not only directly competes with Game Pass delivered via Xbox Cloud Gaming, but its ability to bring publishers' titles to the cloud via AWS also has implications on Azure. Despite Amazon's cloud infrastructure advantages, there are few content aggregators who can successfully scale – given the challenges of fueling a flywheel effect where compelling content drives user adoption and vice versa. In contrast, our established player base, robust gaming content, and strong creator engagement, positions us well to become the backbone for publishers to host their games on the cloud - regardless of whether they're under the Xbox brand or their own.

Broad Technology: Apple

Apple's iOS ecosystem, including iPhones and iPads, represent its primary foray into gaming. These devices see significant gaming adoption, and as part of a closed ecosystem, all transactions flow through the App Store, where Apple receives a platform royalty. Given the prevalence of gaming on iOS, Apple launched Apple Arcade in 2019, a curated game subscription for iOS devices, but it has thus far underperformed against expectations. To summarize Apple's primary gaming-relevant assets:

Figure 10: Apple's Key Gaming-Relevant Assets

Key Asset	Description
iOS Devices	Premium smart phones and tablets with more than 1.8 billion active devices.
iOS App Store	Exclusive storefront for iOS devices which processed an estimated \$52 billion in gaming related transactions in 2021.
Apple Arcade	Curated gaming subscription for iOS devices. Arcade costs \$4.99/month.

Apple reported record-high quarterly revenues in Q4 2021 of \$19.5 billion for Services, which includes App Store and Apple Arcade. In May 2021 it was revealed that 62% of all App Store revenue is generated from gaming-related transactions. Apple then disclosed in June of 2021 that its App Store ecosystem facilitated \$643 billion of billings and sales in 2020, a 24% increase YoY. While Apple currently enjoys a considerable share of the mobile gaming transactions market, its control may be diluted depending on the ultimate result of the Epic v. Apple litigation, which could allow developers to use alternative payment methods outside of the App Store.

For Microsoft, our ability to stream games to iOS endpoints is an important part of our cloud-native strategy. Apple's App Store policies are prohibitive, preventing us from running a gaming subscription service in the App Store. Because we are prohibited from offering a native iOS Game Pass application, we are pursuing a browser-based strategy for our streaming platform, which faces discoverability and other challenges, but provides a consistent experience for players and developers across all connected endpoints and will make iOS devices addressable.

Broad Technology: Facebook (Meta)

Facebook owns the world's largest social graph, across its Facebook, WhatsApp, and Instagram properties. Facebook has built a gaming platform on top of its social network, offering live and recorded game content streaming, HTML5 browser games, playable advertisements, and cloud gaming (in early access). The company reported spending over \$12 billion in 2021 on its Reality Labs, metaverse and virtual reality focused, product segment. To summarize Facebook's primary gaming-relevant assets:

Figure 11: Facebook's Key Gaming-Relevant Assets

Key Asset	Description
Social Graph	The world's leading social graph across Facebook, WhatsApp, and Instagram, with about 3.6 billion monthly active users globally.
Facebook Gaming	Player platform and developer services for its HTML5 browser games, playable advertisements, and cloud gaming (in early access). Content creator tools and video consumption platform for live and recorded game content streaming.
Reality Labs	Reality Labs is a leader in the virtual reality segment and is making considerable investments to leverage these assets for Facebook's metaverse ambitions.

Facebook's considerable investment in Reality Labs is reflected in the scale of their Oculus business. In Q1 2021, Oculus headsets represented approximately 75% of extended reality headsets sold worldwide and their latest device, the Quest 2, has an estimated installed base of roughly 10 million devices. In December 2021, Facebook publicly launched *Horizon World*, a massively multiplayer online virtual reality game, on Oculus, with user generated content commerce capabilities. As of February 2022, Facebook stated that *Horizon Worlds* had over 300,000 monthly active users, 10,000 worlds created, and over 20,000 creators. *Horizon Worlds'* platform fee for user generated content on mobile devices is the standard 30%, however, they charge 47.5% of consumer spend for transactions that occur on VR devices. This strategy has received strong criticism from users. Finally, Facebook is the global leader in the browser gaming segment, accounting for roughly 50% of total segment revenue in 2020. However, the size of this overall segment is in decline.

For Microsoft, Facebook's social network has the potential to become an important top-of-funnel motion for Xbox Cloud Gaming and Game Pass. While Facebook's initial entrance into browser games and playable advertisements focuses on light-weight experiences, we believe they have the ability to become a direct Xbox Cloud Gaming competitor as they scale their cloud gaming offerings. We view virtual reality as a niche gaming experience at this time.

Broad Technology: Google (Alphabet)

Google has impressive, but loosely affiliated assets related to gaming. While its foray into cloud streaming (Stadia) receives the most attention, the company's significant installed base of Android phones, with the Google Play store and associated platform fee, and YouTube network are among the largest and most profitable gaming communities. To summarize Google's primary gaming-related assets:

Figure 12: Google's Key Gaming-Relevant Assets

Key Asset	Description
Android	Global smartphone leader with more than 3 billion monthly active devices.
Google Play	Native store for Android devices which processed an estimated \$47 billion in gaming related transactions in 2021.
YouTube	The world's leading video-on-demand platform with more than 2.3 billion users globally. Gaming represents an estimated 10-15% share of viewing time.
Stadia	Cloud streaming platform analogous to xCloud. Launched as a consumer facing subscription in 2019; pivoted to a publisher-facing white label model in 2021.
Android TV	Growing TV operating system with over 110M monthly active devices. OS supports games available for Android TV.

Google continues to see strong growth and engagement in their Android devices, Google Play store, and YouTube viewing platform. However, after struggling to grow its Stadia subscriber base and foster the creative process necessary for building high-caliber video games, Google publicly shifted its Stadia strategy in February 2021 to emphasize a publisher-facing streaming platform. As part of this move, Google shuttered its 1st party game studios and is now licensing its cloud infrastructure and tools to publishers who want to build their own streaming services. While the economic value for publishers to do this is largely unproven, we believe that demand for white-label streaming will increase, driven by the increased prevalence of streaming as a way to game across endpoints. As this occurs, publishers with strong IP will potentially seek their own direct-to-consumer streaming service to maximize monetization opportunities, while others (i.e., indie developers) will continue to seek at-scale content aggregators to generate awareness and demand for their games. Both require cloud infrastructure solutions but differ in the range of services needed (i.e., backend-only vs full-scale offerings that include content distribution).

For Microsoft, our ability to stream games to Android endpoints is an important part of our cloud gaming strategy, similar to iOS. Today, Game Pass Ultimate subscribers can stream and play games via a native application distributed through the Google Play store, but Play store rules prevent monetization (in-app purchases) in the native app. We also launched a browser-based experience, enabling in-game monetization via the Xbox commerce platform but the web application faces discoverability and other challenges for Android users as well. Finally, YouTube continues to play an important role in connecting and engaging our own gaming communities, as evidenced by Minecraft content driving over 1 trillion views on the platform.

Broad Technology: Tencent

Tencent is the largest firm in gaming, as measured by revenue and profit. In China, Tencent has used its broad social media networks (QQ, WeChat) to establish a leading position as both a content publisher and a platform, including on Android devices. In the West, Tencent has made a myriad of acquisitions and investments. Notably, this includes the acquisition of Riot games (maker of *League of Legends*), a ~40% ownership stake in Epic (maker of *Fortnite* and the Unreal Engine), and the >80%

investment in Supercell (maker of *Clash of Clans*). They most recently acquired Tequila Works, the developer of *Rime*, and made a minority investment in Offworld Industries, developers of *Squad*, *Beyond the Wire*, and *Post Scriptum*. Many of these holdings are managed at arm's length. To summarize Tencent's primary gaming-related assets:

Figure 13: Tencent's Key Gaming-Relevant Assets

Key Asset	Description
Social Media Networks	The largest social media platforms in China, including WeChat (1.3 billion monthly active users) and QQ (550+ million monthly active users).
Tencent App Store	The largest Android app store in China, with roughly 200 million monthly active users.
WeGame	PC gaming platform, which boasts over 80 million monthly active users in China.
Owned Content	A broad portfolio of content across segments (PC, mobile) and geographies.
Minority Investments	A broad portfolio of minority and majority investments globally, including Epic Games, Riot Games, Sea Limited, among many others.

In the quarter ending December 2021, Tencent's total gaming revenue grew 12% year-on-year to roughly \$6.7 billion. Tencent's owned or majority-owned properties are among the most consumed in gaming, led by *League of Legends* (180+ million monthly active users), *Honor of Kings* (100+ million monthly active users), and *CrossFire* (60 million monthly active users). Tencent's *Honor of Kings* became the 1st ever mobile game to make over \$10 billion in lifetime player spend since its launch in 2015. Its most recent game in collaboration with Nintendo, *Pokémon Unite*, was released in September 2021 and has surpassed 70 million total downloads. Within the first week of launch, it garnered over 30 million downloads worldwide, making it the biggest launch ever for a mobile MOBA-genre game despite not having released in China. Recent successes by Tencent and its fellow Chinese market peers have been dampened by increased regulatory scrutiny from the Chinese government. Restrictions include when younger players can game and a 9-month period in which the government did not approve any new game licenses.

While Tencent is a behemoth in gaming, Microsoft and Tencent have limited direct interactions. Most of Tencent's strategic power is concentrated in China, where Microsoft has limited operations. By contrast, Tencent's Western holdings are largely self-managed.

Industry Pureplay: Epic

Epic is a creator of blockbuster games and game development tools. Their public battles with Apple and Google over platform fees and the launch of a 3rd party PC gaming store, with notably lower platform fees, signal its desire to see economic value shifted toward content creators. To summarize Epic's primary gaming-related assets:

Figure 14: Epic's Key Gaming-Relevant Assets

Key Asset	Description
Fortnite	One of the largest titles in gaming by revenue.
Unreal Engine	The leading 3 rd party game engine for the development of high-fidelity games.
Epic Games Store	3 rd party PC store which competes with Valve's Steam and Microsoft's Store.

Fortnite remains one of the leading titles in gaming. It was the #1 free-to-play game on Xbox in 2021, grossing over \$720 million, a roughly 24% decline from 2020. *Fortnite's* mobile distribution remains hampered, as a result of its litigations with Apple and Google regarding alternative payment methods. Epic continues to invest heavily in exclusive games to attract new users to and gain market share for the Epic Games Store (EGS), a PC storefront for games. EGS generated roughly \$840 million of revenue in 2021, up 20% from 2020. Despite revenue growth, Epic still projected it would lose nearly \$140 million on the Epic Game Store in 2021, with losses projected to continue until at least 2025. To fund growth, Epic continues to fundraise, having just closed a \$2 billion round – half of which came from Sony – that valued Epic at \$31.5 billion.

Microsoft's relationship with Epic is multifaceted. *Fortnite* is an important driver of console engagement and economics. Xbox Game Studios is currently developing or operating over 50 games with Epic's Unreal Engine with an estimated lifetime cost of \$30 million in licensing and other fees. Epic Games Store represents a future potential distribution channel for Xbox Game Studios games, but it also competes for exclusive content, affecting Xbox Game Pass content investments.

Industry Pureplay: Nintendo

Nintendo is a long-time leader in console gaming. Unlike Sony and Microsoft, which focus on the attach of 1st party services and 3rd party software, most of Nintendo's economics are driven by the attach of 1st party software from beloved franchises, like *Mario*. Related, while Sony & Microsoft's console competition is often grounded in technical ability, Nintendo favors more novel hardware innovations. Its current console for example, the Switch, can both be tethered to the TV and played standalone as a handheld. To summarize Nintendo's primary gaming-related assets:

Figure 15: Nintendo's Key Gaming-Relevant Assets

Key Asset	Description
1 st Party Studios	Developer of many of the industry's most iconic franchises, including <i>Mario</i> , <i>Zelda</i> , <i>Pokémon</i> , and <i>Donkey Kong</i> .
Switch	A leading game console with over 100 million units sold.

Nintendo's earnings release, for the quarter ended on December 31, 2021, reveals that hardware sales are dampened in a post-quarantine environment, down ~21% in the same period from last year.

However, for the same period of comparison software unit sales remained relatively flat, increasing ~2%. Despite a decrease in the rate of hardware unit sales, Switch sales hit a milestone of total lifetime units sold of over 103 million. *Animal Crossing: New Horizons* reached more than 37 million lifetime units sold, while *Mario Kart 8 Deluxe*, the best-selling Switch game, has sold over 43 million lifetime units.

For Microsoft, Nintendo remains an important benchmark for the success of our console business, but our strategies in gaming are largely different. We have found opportunities to collaborate with Nintendo, including empowering *Minecraft* players on Switch and Xbox to play together.

Industry Pureplay: Sony

Sony develops the leading console platform, PlayStation. Their products and business motion mirror the traditional Xbox console business—invest to build an at-scale device installed base, monetized with the attach of 3rd party games and 1st party content and services. To summarize Sony’s assets:

Figure 16: Sony’s Key Gaming-Relevant Assets

Key Asset	Description
PlayStation Ecosystem	The largest console gaming ecosystem—including publisher network, 1 st party services, and global distribution—with roughly 134 million units sold between PlayStation 4 and PlayStation 5.
PlayStation Studios	Producer of high-quality, exclusive content for PlayStation consoles.

In the quarter ended December 31, 2021 (FY22 Q2), Sony’s gaming division posted a roughly 8% decrease in revenue and a roughly 15% increase in operating income from the prior year. The decline in revenue was driven primarily by a decrease in hardware sales as well as lower software sales for 1st & 3rd party titles. Operating income improved due to a decrease in general expenses as well as the decrease in PlayStation 5 sales, whose retail price is set lower than manufacturing costs.

Recently, Sony announced a rebranding of its subscription services to better compete with Game Pass. The new PlayStation Plus subscription is merging with PS Now and comes with 3 tiers of content access. PlayStation Plus has a more limited catalogue of titles available than Game Pass and will not add exclusive titles on the day of launch. Additionally, cloud-based games are available on a select number of titles as part of the most expensive tier, as PlayStation continues to prioritize its 1st & 3rd party non-subscription game sales.

Historically, Sony has been Microsoft’s primary competitor in gaming, with similar products, services, and business models vying for similar customers. While a leader in console gaming, Sony has limited growth vectors beyond the segment. As such, Sony remains an important benchmark for the success of our console business but is less important in the context of our broader player-centered strategy.

Industry Pureplay: Valve

Valve's Steam platform—the leading 3rd party PC games store—began as a distribution and update platform for its 1st party games. While Valve has other investments, including in virtual reality hardware and in the recently announced Steam Deck, a portable gaming console, its strategy and economics anchor on the health of the Steam platform. To summarize Valve's primary gaming assets:

Figure 17: Valve's Key Gaming-Relevant Assets

Key Asset	Description
Steam	The world's leading 3 rd party PC game store (note: most PC publishers distribute and monetize their games through owned & operated channels).
Valve Games	Creator of several at-scale service games, including <i>DotA</i> , <i>Counter Strike</i> , and <i>Team Fortress</i> ; Valve has deprioritized its content cadence in recent years.
Steam Deck	After various delays, the Steam Deck, a portable gaming console that allows mobile play of games on the Steam Library, began shipping in Feb 2022. About 2,000 games have now been officially marked as Deck Verified or Playable.

Valve, which is privately held, is estimated to have generated under \$10 billion in revenue in 2021, largely driven by sale of 3rd party games via Steam. Steam usage surged even further in 2021, with an average of 132 million monthly active users, a 10% increase from 2020. Players spent a total of 38 billion hours on the platform in 2021, an impressive 21% YoY increase considering the 50% YoY increase in 2020 due to COVID-19. Finally, player spend on Steam increased 27% YoY.

Like Sony, Valve has limited growth vectors beyond its current position as the world's leading 3rd party PC store. While Valve remains an important benchmark for the health of our PC business, we also increasingly rely on them as a distributor. To illustrate, the PC versions of Xbox Game Studios titles like *Forza Horizon 5* are also distributed by Steam, a shift in our strategy from just 6 years ago.

7.3 | Industry Leaders by Reported Revenue

Finally, we track the reported revenue of leading companies in gaming as part of a broader annual industry sizing and profit analysis. To summarize the top-10 leaders for 2021:

Figure 18: Estimated Revenue for Calendar Year 2021⁸

Industry Leaders by Estimated Revenue ⁹	
1. Tencent	\$32.8 billion
2. Sony	\$25.0 billion
3. Google	\$17.5 billion
4. Microsoft	\$16.0 billion
5. Apple	\$15.5 billion
6. Nintendo	\$15.1 billion
7. Netease	\$9.9 billion
8. Activision Blizzard	\$8.1 billion
9. Electronic Arts	\$6.5 billion
10. Valve ¹⁰	\$6.5 billion

⁸ Public financial disclosure, equity research, internal analysis ("CY2021 Game Industry Profit"). For companies that span multiple lines of business (including gaming), figures reflect estimated gaming-specific revenue and profit.

⁹ Includes dedicated hardware revenue and profit/loss for Microsoft, Nintendo, and Sony

¹⁰ Valve is privately held. Estimates reflect internal Microsoft analysis ("CY2021 Game Industry Profit")