

# Nasdaq Yewno Metaverse Index™: Inventing New Realities

Fall 2021



**The Nasdaq Yewno Metaverse Index is designed to track the performance of companies involved in the Metaverse theme. The companies are selected based on proprietary data for Virtual Reality and Augmented Reality, aggregated by Yewno, sourced from news and patents data.**



**Yewno**

Transforming Information to Knowledge



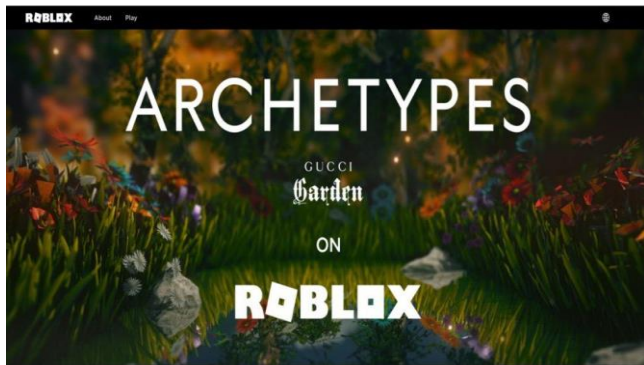
# What is the metaverse?

“The Metaverse is an expansive network of persistent, real-time rendered 3D worlds and simulations that support continuity of identity, objects, history, payments, and entitlements, and can be experienced synchronously by an effectively unlimited number of users, each with an individual sense of presence.” –**Metaverse Primer**

“The ‘metaverse’ is a set of virtual spaces where you can create and explore with other people who aren’t in the same physical space as you.” –**Meta Platforms, Inc.** (formerly Facebook, Inc.)

# The Metaverse World

## Marketing Opportunities



Spring 2021 - Gucci, a fashion brand, created a virtual gallery of advertising campaigns that were displayed in a physical gallery.

(Source: Vogue)

## Immersed Experiences & Marketplaces



In October 2021, Sotheby's, an auction house, launched a virtual marketplace for NFT's and digital art.

(Source: Artnet)

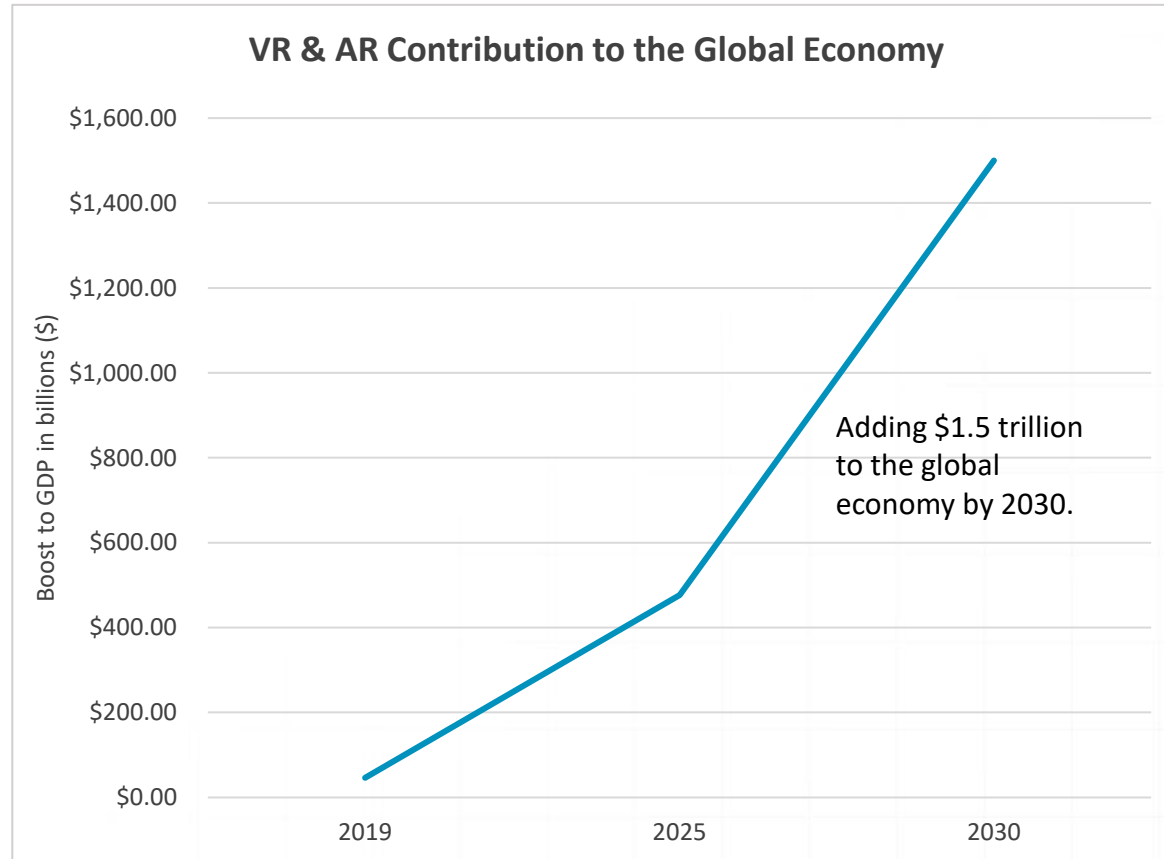
## Live Entertainment



Marshmello, an electronic musician, held a virtual concert in Fortnite that saw over 10 million players attend in 2019.

(Source: The Verge)

# Opportunity in the Metaverse



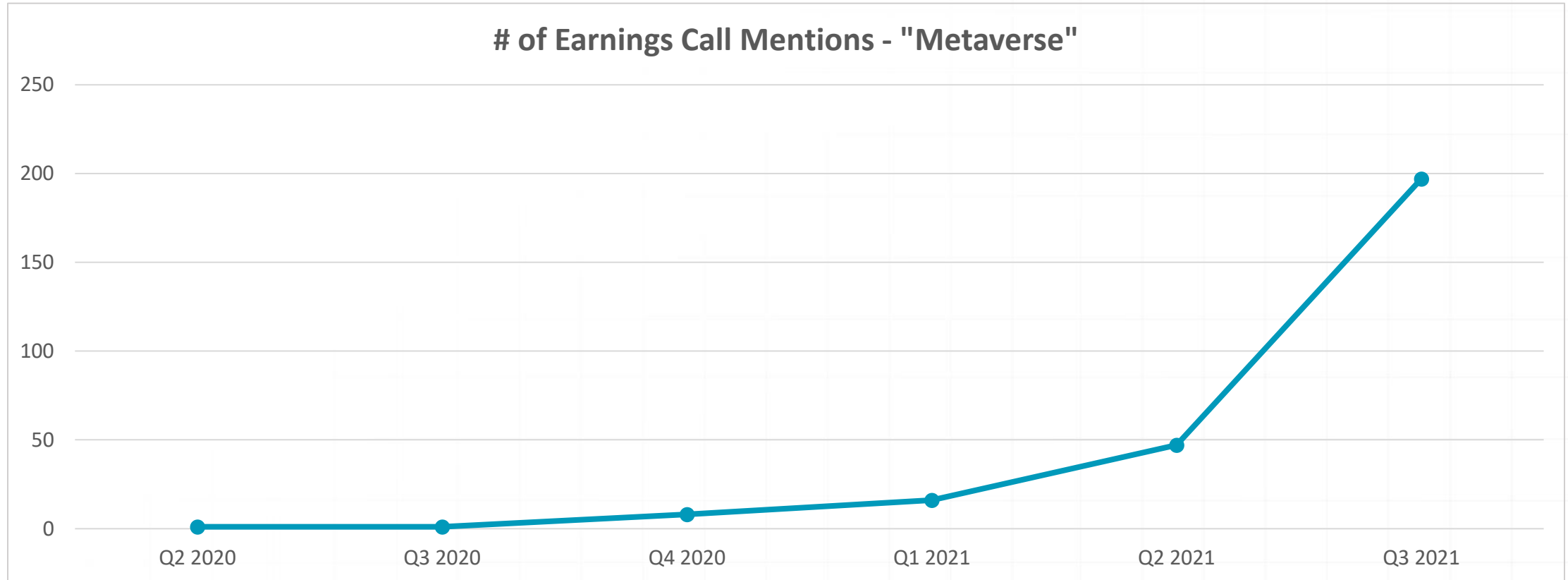
(Source: PWC, <https://www.pwc.com/seeingisbelieving>, 2019)

Most Expensive NFT in Metaverse Game – The Sandbox:  
**\$650k for a superyacht in '21**  
*(Autoevolution)*

Revenue from Virtual World Gaming:  
**\$180 billion in 2020**  
*(Grayscale)*

Total Addressable Market:  
**\$800 billion in 2024**  
*(Bloomberg Intelligence)*

# Metaverse – An Emerging Area in the Investment Universe



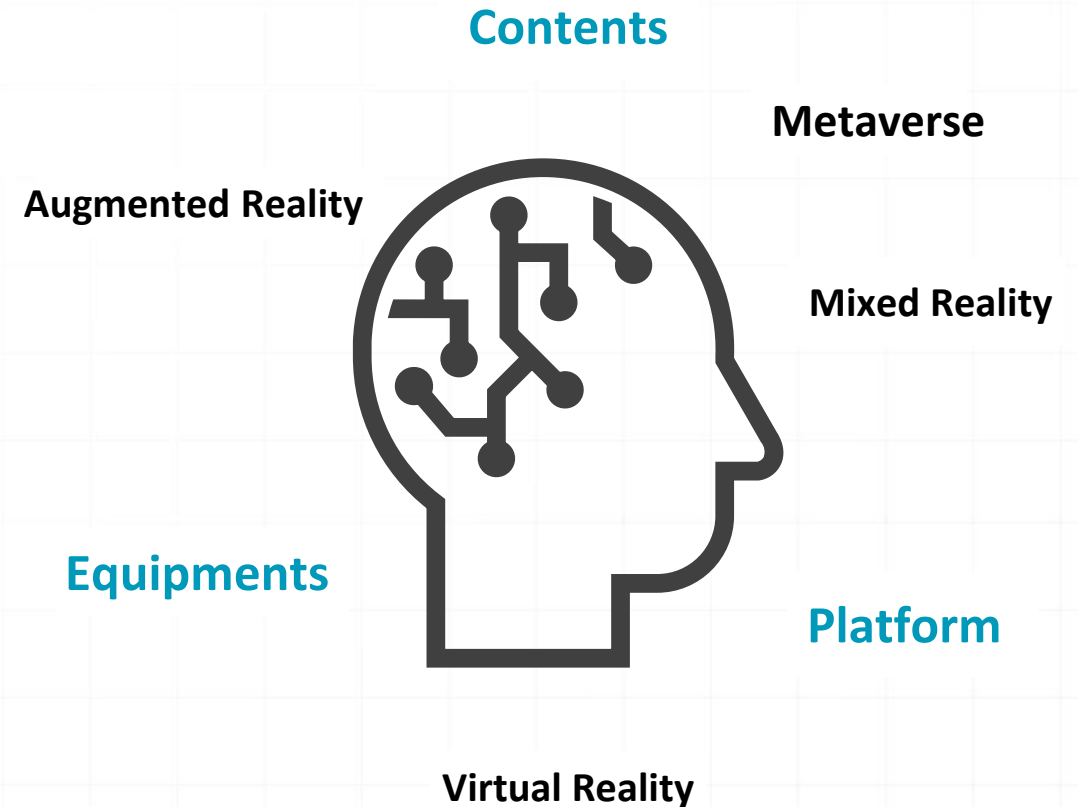
**In the 15 months between Q2 2020 – Q3 2021, the number of earnings calls mentioning “metaverse” has risen from 1 to 197.**

# Nasdaq Yewno Metaverse Index (NYMETA™)



# Yewno Metaverse Strategy

- The **Yewno Metaverse** theme selects companies that may benefit from the research and development on three Metaverse areas:
  - Equipments
  - Contents
  - Platforms
- Technological innovations in these areas stand to revolutionize the Metaverse Industry in many ways while simultaneously reducing the cost and enhance the quality as well as content of **Virtual, Augmented and Mixed Reality**





# Metaverse Concept Universe

The Nasdaq Yewno Metaverse Index is designed to track the performance of companies involved in the Metaverse theme. Companies with certain level of exposure to virtual reality, augmented reality and mixed reality are identified as platform, equipment or content providers. Yewno sources and aggregates this information from news and patents data using AI-based technology.

## Main Concepts:

- Virtual Reality
- Augmented Reality
- Mixed Reality
- Metaverse

## Sub-Concepts by Component:

- Platform
  - OS, SNS, Engine, Payment, etc.
- Equipment
  - GPU, VR Headset, Video Game Console, Eye Tracking, etc.
- Contents
  - Healthcare Industry, Advertising, Video Game Industry, Tourism, etc.

# Yewno's Data Framework for Metaverse Investing

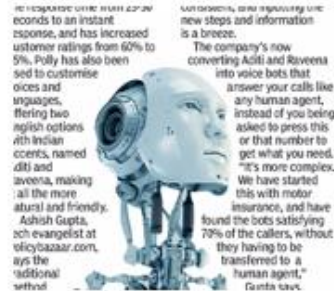
**Data Sources** with millions of data points



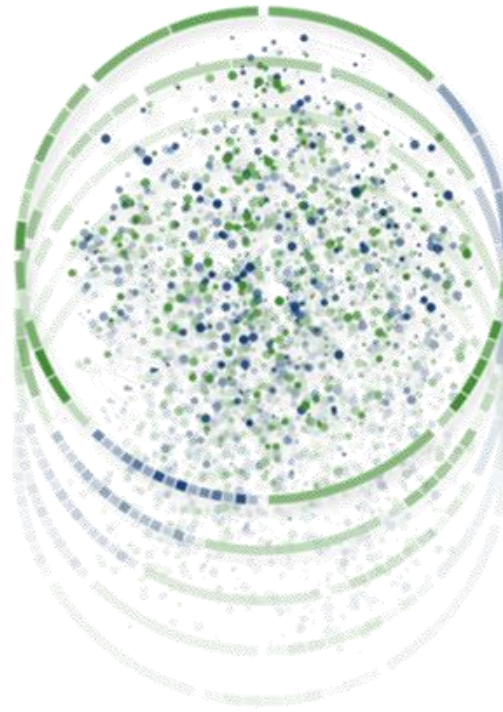
**11M+** Global Patents (USPTO, WIPO)



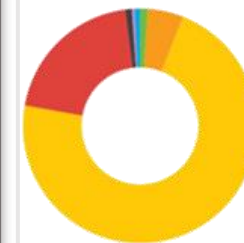
**17.9 M+** News articles



Yewno's Dynamic **Knowledge Graph** to capture exposures for Metaverse Concepts



**Thematic Engine** produces a basket of securities



SECTOR WEIGHTING (%)	
Communication Services	1.06
Consumer Discretionary	—
Consumer Staples	—
Energy	—
Financials	—
Health Care	4.93
Industrials	71.81
Information Technology	20.18
Materials	0.90
Real Estate	0.35
Utilities	0.77
Cash	—
Other	—

Sector weights of Nasdaq Yewno Aerospace & Defense Index as of 10/31/2020.

# Nasdaq Yewno Metaverse Index (NYMETA)

## Methodology

- NYMETA is comprised of 40 publicly listed companies that are involved in the Metaverse theme. (As of 10/29/21)
- Security Eligibility Criteria:
  - Meet the Component and Concept classification process to review the Metaverse technologies by analyzing news and patent data on a rolling 180-day basis and assigning scores to thematic Concepts, including four Main Concepts, which are classified into three Components:
    - Platform
    - Equipment
    - Content
  - Primary listing on an exchange operated under Nasdaq – All Markets, New York Stock Exchange, Inc., or Cboe Global Markets Inc.
  - Have a minimum market cap of \$500M USD
  - Have a minimum three-month average daily trading volume of \$1M USD
- The Index Reconstitution is conducted semi-annually in June and December
- The Index Rebalance is conducted quarterly in March, June, September and December
- The Index is a modified market capitalization-weighted index

# Constituent Selection Process

- Securities that meet the applicable Security Eligibility Criteria are eligible for inclusion in the Index.
- At each semi-annual Reconstitution, index constituents are selected according the following four-step process
  - 1) The eight securities with the highest Platform Aggregate Component Scores are selected. In the event that multiple securities have the eighth-highest Score, the securities with the largest market capitalizations are selected.
  - 2) Excluding the eight securities already selected for Index inclusion, the eight securities with the highest Equipment Aggregate Component Scores are selected. In the event that multiple securities have the eighth-highest Score, the securities with the largest market capitalizations are selected.
  - 3) Excluding the 16 securities already selected for Index inclusion, the eight securities with the highest Content Aggregate Component Scores are selected. In the event that multiple securities have the eighth-highest Score, the securities with the largest market capitalizations are selected.
  - 4) Excluding the 24 securities already selected for Index inclusion, the 16 securities with the highest overall Aggregate Component Scores are selected). In the event that multiple securities have the sixteenth-highest Score, the securities with the largest market capitalizations are selected.
- At the June and December Reconstitutions, these 40 securities constitute the final selection of securities included in the Index.

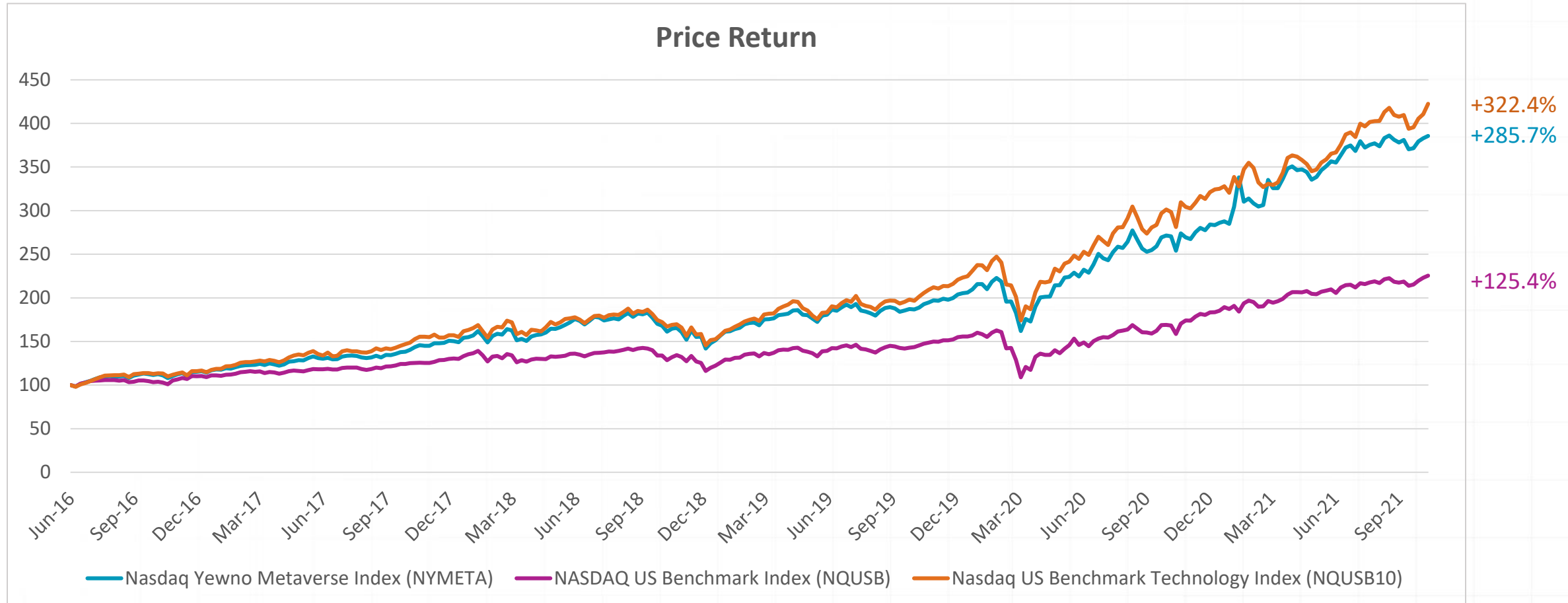
# Rebalance & Weighting Process

- Rebalancing
  - At the March and September Rebalances, all securities that meet two additional eligibility criteria are additionally selected for inclusion in the Index. This may generate an Index consisting of more than 40 Index Securities:
    - A security must have begun trading on an eligible exchange after the most recent Reconstitution Reference Date and before the current Rebalance Reference Date.
    - A security must have a Main Keyword score of at least 80%, as determined by Yewno.
- Weighting
  - Index Securities' initial weights are determined by dividing each Index Security's market capitalization by the aggregate market capitalization of all Index Securities. Initial weights are then adjusted to meet the following constraints:
    - No Index Security weight may exceed 8%.
    - No Index Security weight may be below 1%.

# Index Characteristics



# Index Performance



# Index Components as of 10/29/2021

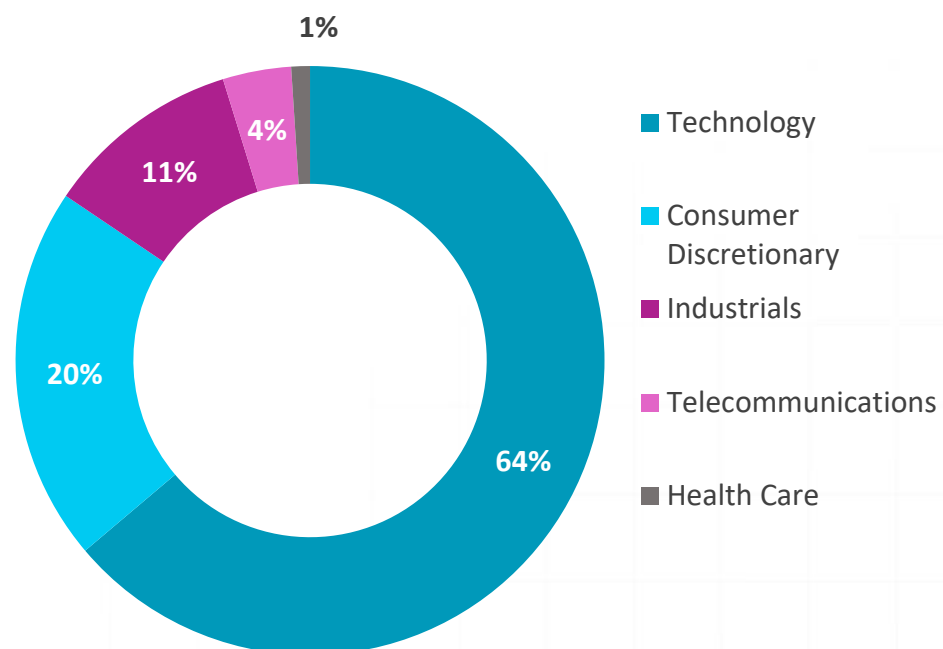
Symbol	Company Name	Index Weight (%)
MSFT	MICROSOFT CORP	8.78
GOOGL	ALPHABET CL A CMN	8.18
AAPL	APPLE INC.	7.89
AMZN	AMAZON.COM INC	7.77
FB	FACEBOOK INC	6.82
NVDA	NVIDIA CORPORATION	6.67
V	VISA INC.	3.73
MA	MASTERCARD INC	3.43
ADBE	ADOBE INC.	3.24
DIS	WALT DISNEY DISNEY C	3.21
NFLX	NETFLIX, INC.	3.19
CRM	SALESFORCE.COM INC	3.06
ORCL	ORACLE CORPORATION	2.80
INTC	INTEL CORP	2.08
T	AT&T INC.	1.88
NET	CLOUDFLARE, INC.	1.61
QCOM	QUALCOMM INC	1.57
SONY	SONY GROUP CORPORATION	1.52
AMD	ADV MICRO DEVICES	1.52
AXP	AMER EXPRESS INC	1.44

Symbol	Company Name	Index Weight (%)
BA	BOEING CO	1.27
IBM	INTL BUSINESS MACH	1.17
DELL	DELL TECH CL C	1.13
BBY	BEST BUY CO INC	1.05
TDC	TERADATA CORP	1.03
PHG	KONINKLIJKE PHLP NV	1.02
RBLX	ROBLOX CORPORATION	1.02
YELP	YELP INC.	1.00
EBAY	EBAY INC.	1.00
DBX	DROPBOX, INC CMN A	0.96
NLOK	NORTONLIFELOCK INC.	0.96
NOK	NOKIA CP ADS	0.95
ATVI	ACTIVISION BLIZZARD	0.95
CTXS	CITRIX SYSTEMS INC	0.92
ERIC	ERICSSON ADR	0.92
COF	CAPITAL ONE FINANCI	0.91
COUR	COURSERA, INC.	0.91
TWTR	TWITTER, INC.	0.83
LOGI	LOGITECH INT SA	0.81
PINS	PINTEREST, INC.	0.80

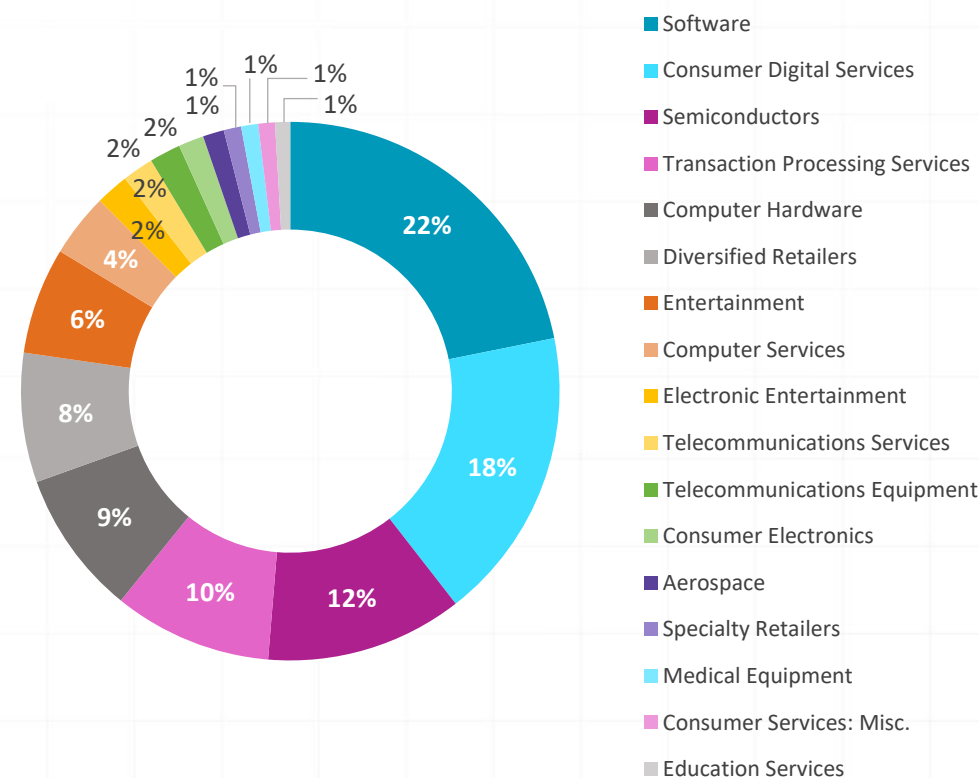


# Industry & Subsector Breakdown

ICB Industry Classification: November 2021



ICB Subsector Classification: November 2021

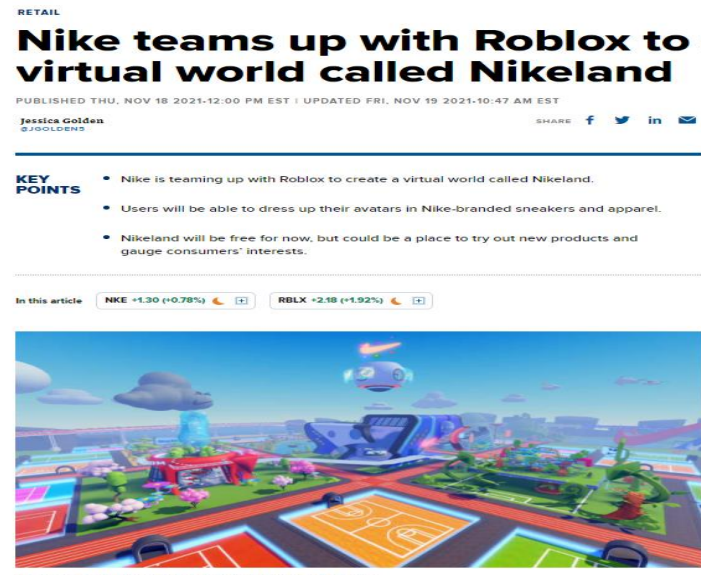


# Roblox Corporation

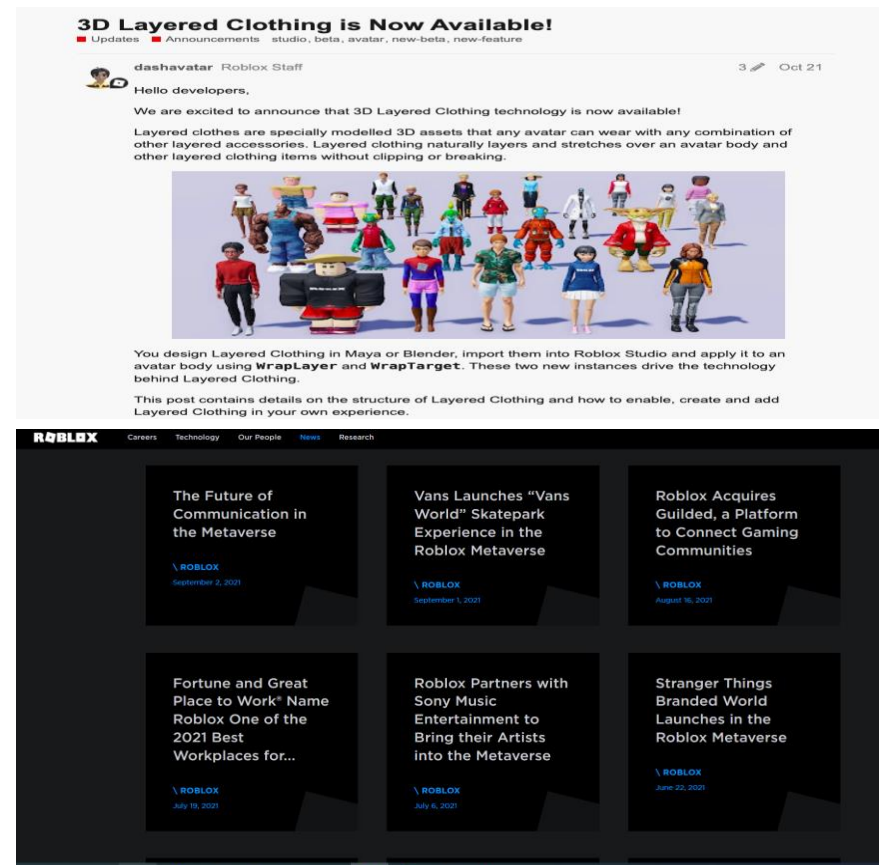
# NYMETA Weight: 1.53%

Roblox (RBLX) is in the business of providing video game platforms primarily for the young gamers. Unlike other video game companies RBLX provides a closed environment, which provides monetization and new tools to its developers and in turn profit from creation of new franchise or games. Its platform consists of Roblox Client, the Roblox Studio, and the Roblox Cloud. Recently it is focusing on creating metaverse experiences, beyond gaming, for education, concerts and businesses.

- Founded in 2004 and headquartered in San Mateo (California), the U.S.
- Current Market Cap: \$67B
- Price Return from IPO (10- March 2021): **81%**
- FY'21 Revenue (est.): \$2.7B, up **46%** vs. \$1.9B in FY'20.
- Q3'21 R&D Expense: \$138MM (**27%** of Revenue)
- Q3'21 Gross Margin: **20.8%**
- Q3'21 Free Cash Flow: \$189.6MM
- Q3'21 Net loss: \$74.0MM
- # of Employees: ~1,200
- Key Customers: young users (49% of users, under the age of 13)



Nike is partnering with [Roblox](#) to create a virtual world called "[Nikeland](#)" on Roblox's online gaming platform. Nike said it will continue to update the virtual world to include athlete and product integration.



# Walt Disney

# NYMETA Weight: 2.74%

Walt Disney (DIS) is a diversified international family entertainment and media enterprise. It owns some of the most recognized characters like Mickey Mouse and theme parks. Moreover, it makes animated and live action films with renowned studios. DIS also operates several media networks such as ESPN. The company also emphasizing on its on OTT platforms (ESPN+ and Disney).

- Founded in 1923 and headquartered in Burbank, the U.S.
- Current Market Cap: \$263B
- 5-Year Price Return: **46%**
- FY'21 Revenue : \$67.4B, up **21%** vs. \$55.6B in FY'16 (**3.9% CAGR**)
- DIS is planning to increase its content investment by 32% y/y to \$33B, in 2022.
- FY'21 Gross Margin: **25.6%**
- FY'21 Free Cash Flow: \$2.0B
- FY'21 Net Income: \$2.0B
- # of Employees: ~190,000
- Key Customers: Retailers, SVOD services (Netflix like) and Studios (e.g. Marvel and Pixar).



How Physical+Digital is Driving the Present and the Future of Disney Parks

Tilak Mandadi  
Chief Strategy Officer, MGM Resorts International  
Published Nov 17, 2020

+ Follow

Source: Nasdaq, FactSet, Reuters, BI and Walt Disney.



Disney is coming up with its own metaverse. Unsplash

- Disney CEO Bob Chapek said the company is planning to enter the metaverse world.
- Chapek didn't reveal details but said that Disney will create "unparalleled opportunities for consumers to experience".

# Disclaimer

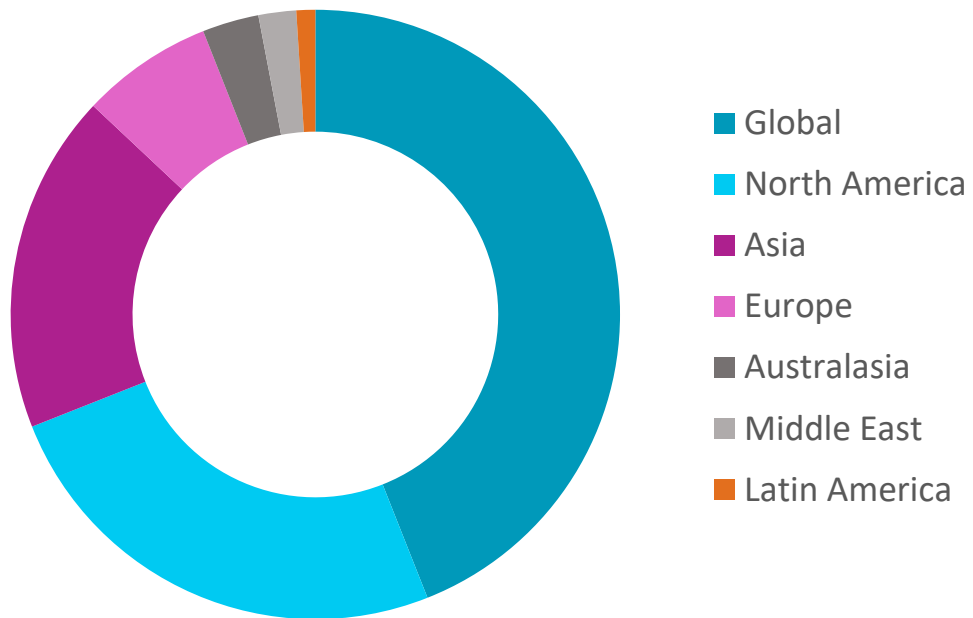
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# Appendix:

# News Sources

## News by Region



## News by Category

