

# ARTILLY INTELLIGENCE BRIEFING

XR GLOBAL REVENUE FORECAST, 2016-2021

DECEMBER 2017

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# EXECUTIVE SUMMARY



# INTRODUCTION

Many AR and VR stakeholders claim that their market sizes will be massive. But how big are they and how big will they realistically get? *ARtillry Intelligence* ventured to quantify these sectors in more precise terms. The result is our latest industry revenue forecast.

Applying market sizing and forecast experience from 15 years of analyst work (see methodology section), *ARtillry Intelligence* has devised a disciplined and non-biased revenue forecast for AR & VR, segmented into their product areas. That includes sub-sectors like enterprise AR & VR.

The following pages provide overall market revenue projections, subdivisions of each product category, and bulleted insights all along the way. This is meant to qualify the revenue drivers and rationale behind the numbers. A long-form narrative report will also be produced in Q1 2018.

Lastly, to characterize *ARtillry Intelligence*'s overall position on AR & VR revenue growth, we maintain a cautiously-optimistic view. Growth and scale will come but slower than most analyst firms project, due partly to the pace of consumer adoption and other signals *ARtillry* tracks.

*ARtillry Insights* subscribers are encouraged to spend time with the following pages, and to contact us with questions or requests for deeper analysis: <https://artillry.co/contact/>





# WHAT'S COVERED IN THIS FORECAST

This forecast quantifies revenues for AR and VR products. Its main categories are **enterprise AR**, **consumer AR**, **enterprise VR** and **consumer VR**. These are each subdivided by hardware and software. Altogether there are several combinations of factors examined in the following pages.

VR hardware includes headsets and bundled input or tracking devices, but does *not* include gaming consoles, smartphones and PCs required to run some headsets. Similarly with AR, smart glasses are included in revenue projections, but mobile devices (such as iPhone sales) are not.

## INCLUDED

- AR & VR Hardware (Headsets, smart glasses)
- AR & VR Software (Enterprise productivity software, games, apps, in-app purchases)
- Bundled Hardware (Input or tracking devices)
- All VR Hardware & Software *sales*: (Consumer, enterprise, VR Arcades)

## NOT INCLUDED\*

- PC or Gaming Consoles (e.g. PSVR)
- Smartphones (e.g. iPhone to run ARkit apps)
- VR Arcade *Admissions* (Time or session-based fees for VR experiences)
- AR & VR Services: (e.g. Enterprise consulting)
- VR Cameras (e.g. 360 degree camera hardware)
- AR & VR Advertising (e.g. Immersive in-game ads)



# KEY TAKEAWAYS



# KEY TAKEAWAYS

Takeaways and growth dynamics for AR & VR sectors covered in this report.

**Total global AR & VR revenues** will grow from \$4.1 billion in 2016 to \$79 billion by 2021.

**Enterprise AR** will grow from \$829 million in 2016 to \$47.7 billion in 2021. It's the fastest growing segment of AR & VR revenues and the largest revenue segment in 2021. Scale will result from wide applicability across enterprise verticals; and a form factor that supports all-day use and clear ROI (e.g. manufacturing efficiencies). Near-term revenues will be hardware-dominant as it's usually the first step in enterprise tech adoption. Hardware growth creates an installed base for software, which will dominate enterprise AR in outer years. Enterprise hardware adoption will also mature as it's established in the enterprise, with replacement cycles outpaced by software refresh rates.

**Consumer AR** will grow from \$975 million in 2016 to \$15.8 billion in 2021. Until the 2020 introduction of Apple's smart glasses, it will be dominated by the mobile form factor. Revenues will be software-dominant during that time (mobile devices aren't counted in this forecast), and include app revenues such as in-app purchases. Much of this will evolve from the business model validated by Pokémon Go. Niantic will also find success in its follow-up game to Pokémon Go, with architecture and game mechanics re-skinned to a Harry Potter theme. Consumer AR will hit an inflection point – and shift share towards hardware revenue – starting in 2020 as consumer-gear smart glasses finally arrive. Meanwhile, the development work put into mobile AR apps will be a training ground for an eventual glasses-dominant era.

# KEY TAKEAWAYS (CONT')

**Enterprise VR** will grow from \$665 million in 2016 to \$4.4 billion in 2021. Though strong in its own right (46% CAGR), it will hold the smallest share of AR & VR revenues among the sub-sectors measured in this forecast. VR will be stronger as a consumer play (see below), while AR is stronger in the enterprise (see previous slide). The latter dynamic stems from VR's inherent isolation, which inhibits some job functions and share of time per working day. Like AR, VR's near term enterprise revenue will be hardware-dominant as it's the first step to tech adoption. That installed base will pave the way for enterprise VR software revenues to grow and overtake enterprise VR hardware revenues by 2019.

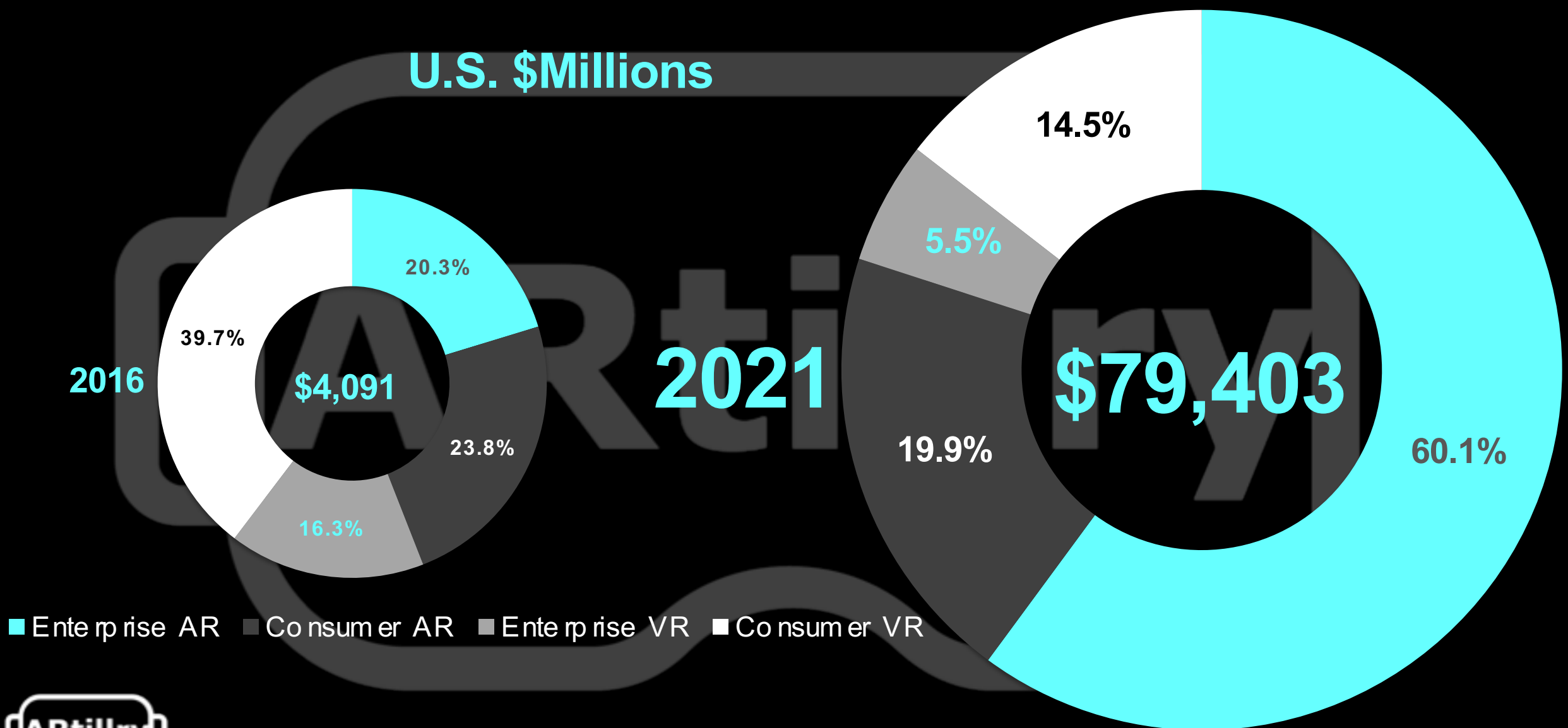
**Consumer VR** will grow from \$1.6 billion in 2016 to \$11.5 billion in 2021. Like enterprise VR, it will be hardware-dominant in early years as its installed base is established. Over time, software (in this case, games and apps) will eclipse hardware revenues with a faster refresh cycle. A greater installed base of hardware will also incentivize VR content creators to invest in long-form content, resulting in more robust VR content libraries and greater software spending per user (ARPU). Price competition among VR headset manufacturers (e.g. Oculus, Sony, Samsung) will also be a big consumer adoption driver. Oculus Go, at a \$199 price point, will hit a sweet spot for quality and affordability, and will drive mainstream VR adoption and education starting in 2018. Oculus – with the advantage of Facebook-backing – has the flexibility to apply loss-leader pricing in order to trade margins for market share. That will give it a strong competitive position versus players that are dependent on hardware revenue (i.e. HTC, Samsung).

# GLOBAL AR & VR REVENUES










# GLOBAL AR & VR REVENUES

U.S. \$Millions









# GLOBAL AR & VR REVENUES

-  **Global AR & VR product revenues will grow from U.S. \$4.1 billion in 2016 to U.S. \$79 billion in 2021, a 160% compound annual growth rate (CAGR).**
-  **The largest share of revenue in 2016 was held by VR (driven by consumer markets) which will shift over time as AR (driven by enterprise markets) gains momentum and revenue dominance through 2021.**
  -  **VR comprises 56% of revenues in 2016 and 20% in 2021.**
  -  **AR comprises 44% of revenues in 2016 and 80% in 2021.**
-  **Within VR, consumer revenue eclipses enterprise by a factor of almost 3-1 through 2021.**
  -  **VR's form factor is aligned more with gaming and entertainment.**
  -  **VR will find a home in the enterprise, however its isolation inhibits some job functions and share of time per working day.**



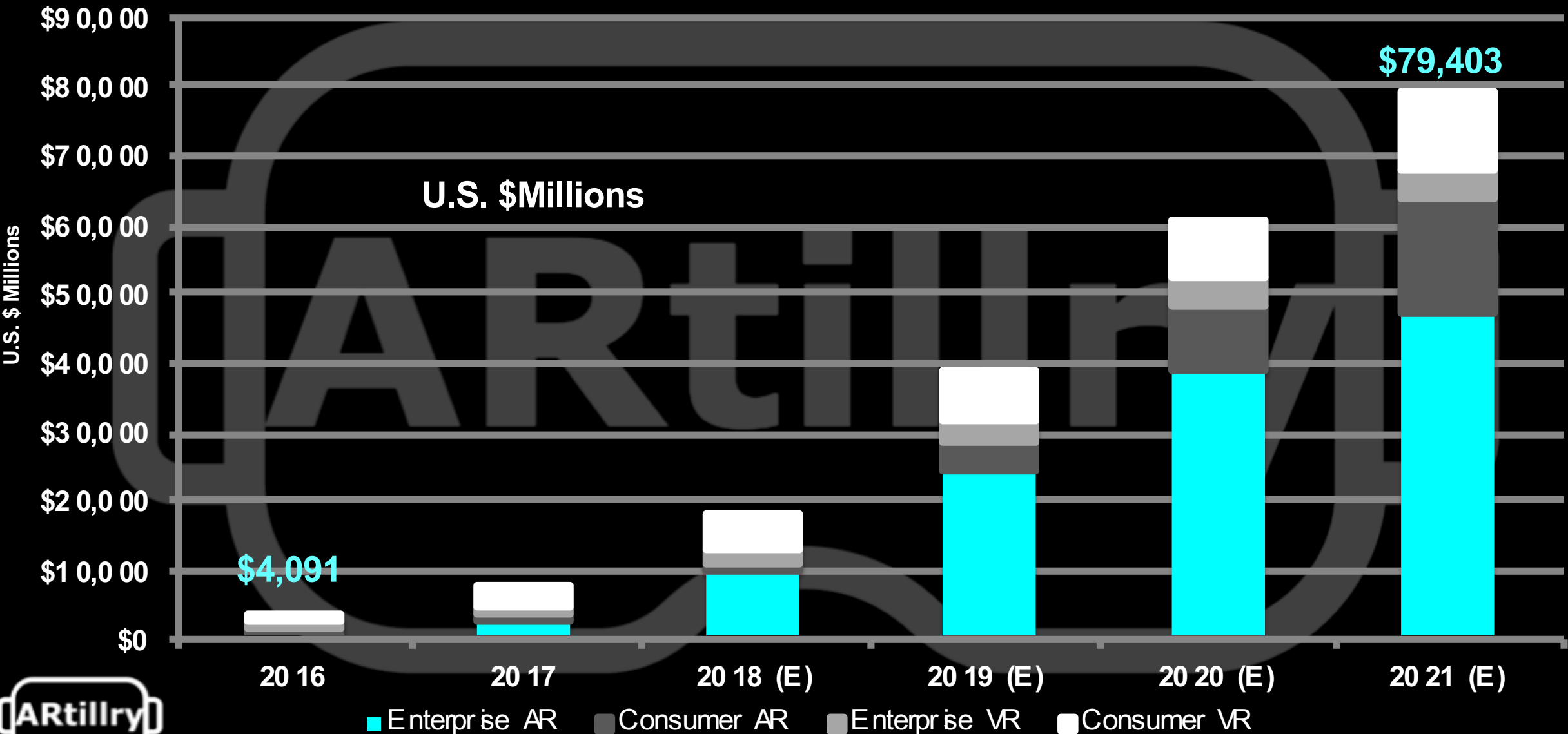


# GLOBAL AR & VR REVENUES (CONT')

-  Within AR, the opposite is true: enterprise revenue outweighs consumer revenue by as much as 10-1 (2018) over the next four years.
-  AR's form factor is well-aligned with enterprise productivity such as manufacturing, assembly and medical procedures.
-  AR will find a home with consumers, however its specs and stylistic realities inhibit several consumer use cases in the near term.
-  **Apple's 2020 introduction of smart glasses will shift AR's momentum and revenue share towards consumer products.**
-  By 2021, enterprise AR's revenue dominance over consumer AR will be reduced to 3-1 as smart glasses (led by Apple) penetrate consumer markets.
-  Until then, the mobile form factor will dominate consumer AR, with most revenue derived from software (mobile games, apps, in-app purchases) as opposed to hardware (smart glasses).

# GLOBAL AR & VR REVENUE BREAKDOWN

(SIMPLIFIED VIEW)



# GLOBAL AR & VR REVENUE BREAKDOWN

(DETAILED VIEW)

2021: VR has a place in the enterprise but is a greater consumer play.

2020: Apple launches consumer smart glasses. Enterprise dominates AR 5-1, but its share diminishes as consumer AR glasses penetrate.

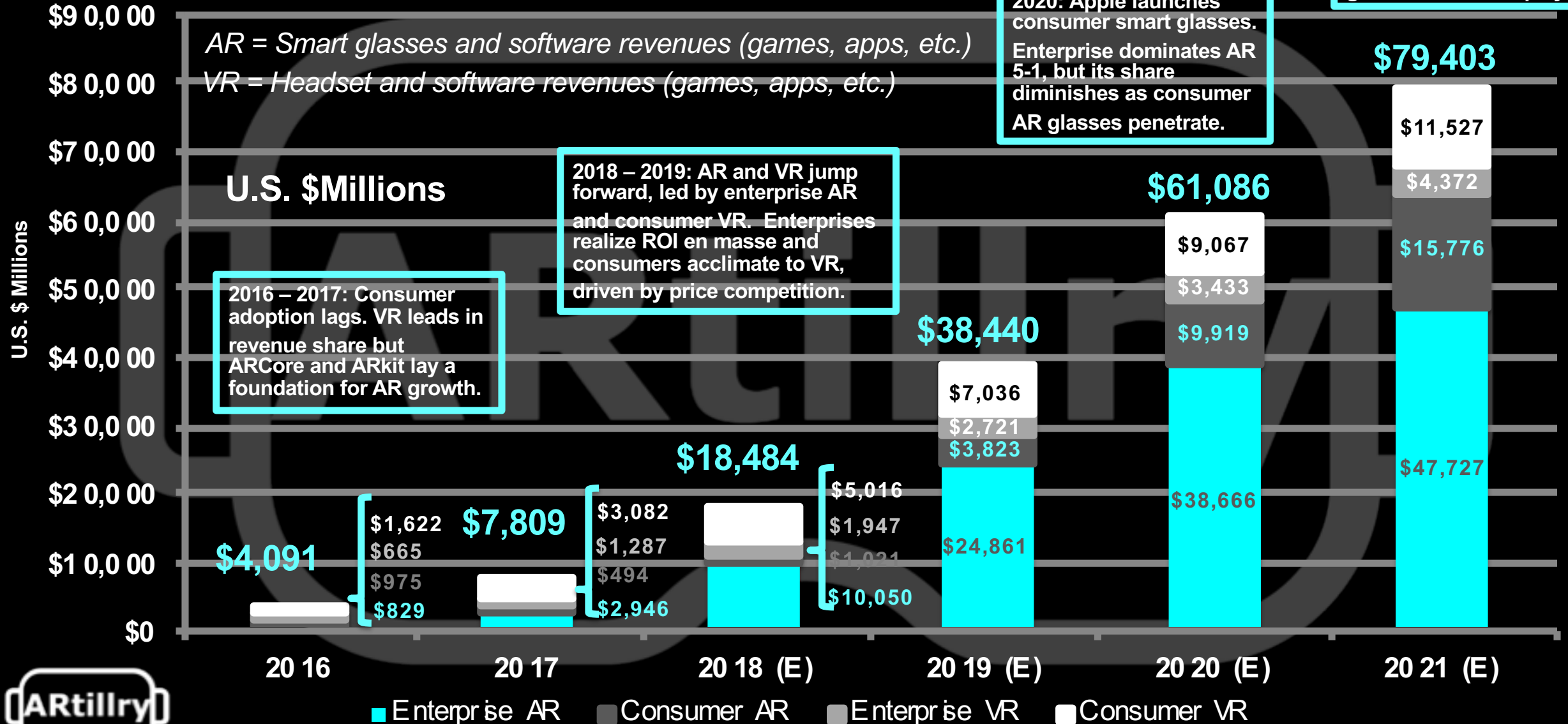
AR = Smart glasses and software revenues (games, apps, etc.)

VR = Headset and software revenues (games, apps, etc.)

U.S. \$Millions

2016 – 2017: Consumer adoption lags. VR leads in revenue share but ARCore and ARkit lay a foundation for AR growth.

2018 – 2019: AR and VR jump forward, led by enterprise AR and consumer VR. Enterprises realize ROI en masse and consumers acclimate to VR, driven by price competition.




# **DRILLING DOWN ON AR**



# GLOBAL AR REVENUES


 **Global AR product revenues will grow from U.S. \$1.8 billion in 2016 to U.S. \$63.5 billion in 2021, a 104% compound annual growth rate (CAGR).**

 **The largest share of AR revenue in 2016 was consumer AR (54%), which shifts in 2017 as enterprise AR pulls ahead and leads AR through 2021.**

 **Enterprise comprises 46% of AR revenues in 2016 and 75% in 2021.**

 **Consumer comprises 54% of AR revenues in 2016 and 25% in 2021.**








 **Consumer AR's early lead was due to an Anomaly: Pokémon Go. It then dips in 2017 before growing steadily through 2019, after which it inflects again.**

 **Near term consumer AR growth is in software, as ARKit and ARCore apps represent opportunity for app revenue models (e.g. in-app purchases).**

 **Longer term, Apple's 2020 smart glasses will accelerate consumer AR and shift its composition – erstwhile software-dominant – to hardware.**











# GLOBAL AR REVENUES (CONT')

-  In Enterprise AR, it's the opposite: hardware (smart glasses) is the nearer-term dominant revenue source, slowly eclipsed by software.
-  As is often the case with enterprise technologies, hardware comes first and establishes an installed base that paves the way for software revenue.
  -  Over time, software revenue share grows through recurring purchases (i.e. SaaS enterprise software) that outpace hardware replacement cycles.
-  Unlike VR which utilizes the same headsets for consumer and enterprise buyers (e.g. HTC Vive), AR hardware is designed for one or the other.
  -  This is mostly due to stylistic nuances required in consumer markets.
  -  Apple's 2020 smart glasses will be consumer-targeted (size, weight, style, etc.) but could be optimized in some ways for enterprise contexts.
  -  Enterprise and consumer AR glasses design could eventually converge.



# GLOBAL AR REVENUES (CONT')

-  Meanwhile, consumer AR revenues will be ruled by the mobile form factor.
-  Mobile AR revenues are in turn dominated by software.
  -  Mobile AR hardware (smartphones) isn't counted in this forecast, as it's a ubiquitous consumer device on which AR's function is secondary.
  -  Mobile AR software revenue will consist of app and in-app purchases.\*
-  In-app purchases as a revenue model has been validated through mobile gaming, and especially Pokémon Go (\$1 billion in revenue in H2 2016 alone).
  -  Niantic received \$200 million in series B funding this month to develop games that are built on Pokémon Go's architecture and game mechanics.
  -  This most notably will include a game that re-skins the experience to a Harry Potter theme, in partnership with Warner Bros.
  -  We will see mobile AR business models evolve over the next 2-3 years, with different variations on Pokémon Go's in-app purchase model.



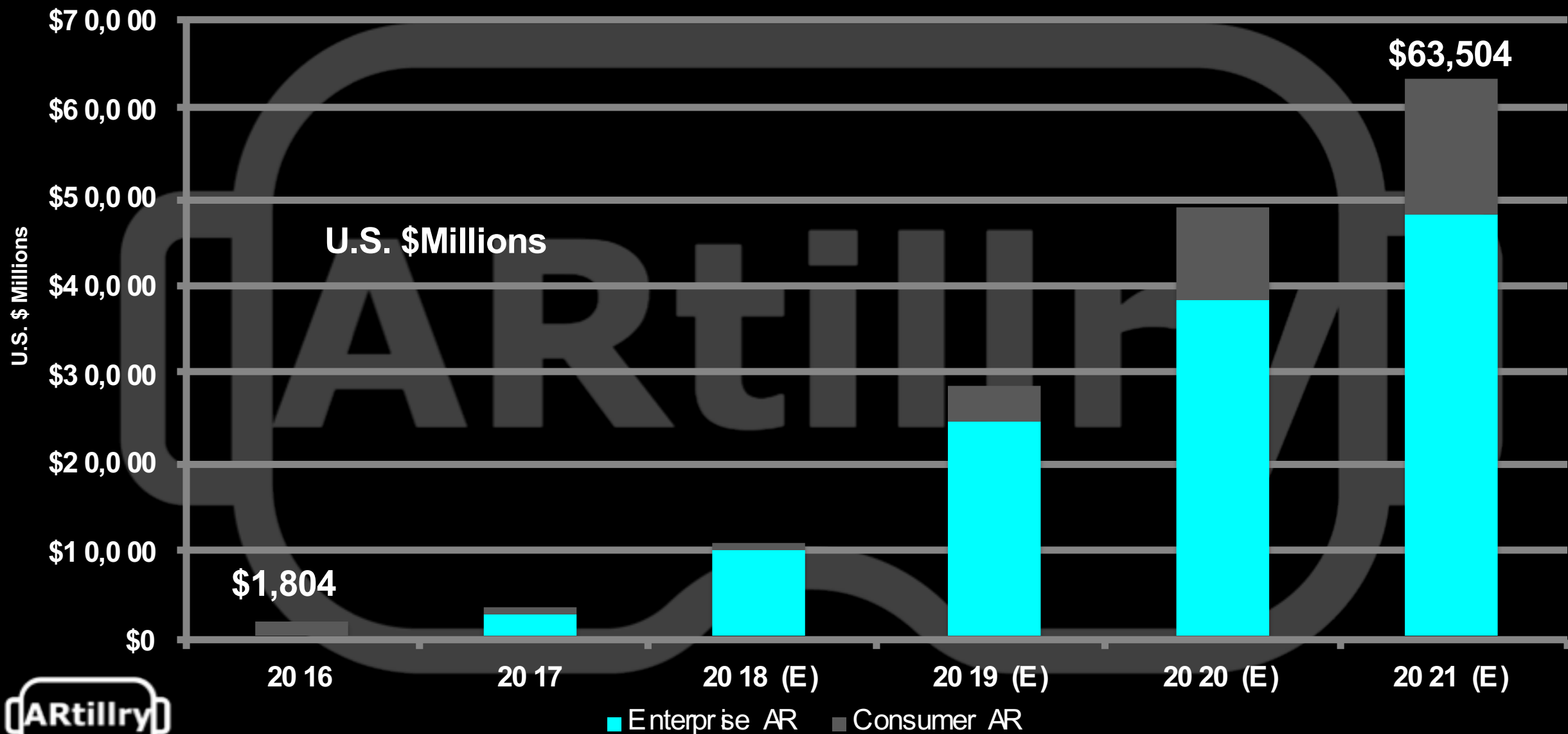
\*Advertising in mobile AR is not tracked in this forecast, but will be in future ARtillery Intelligence reports.

© ARtillery Intelligence, 2017



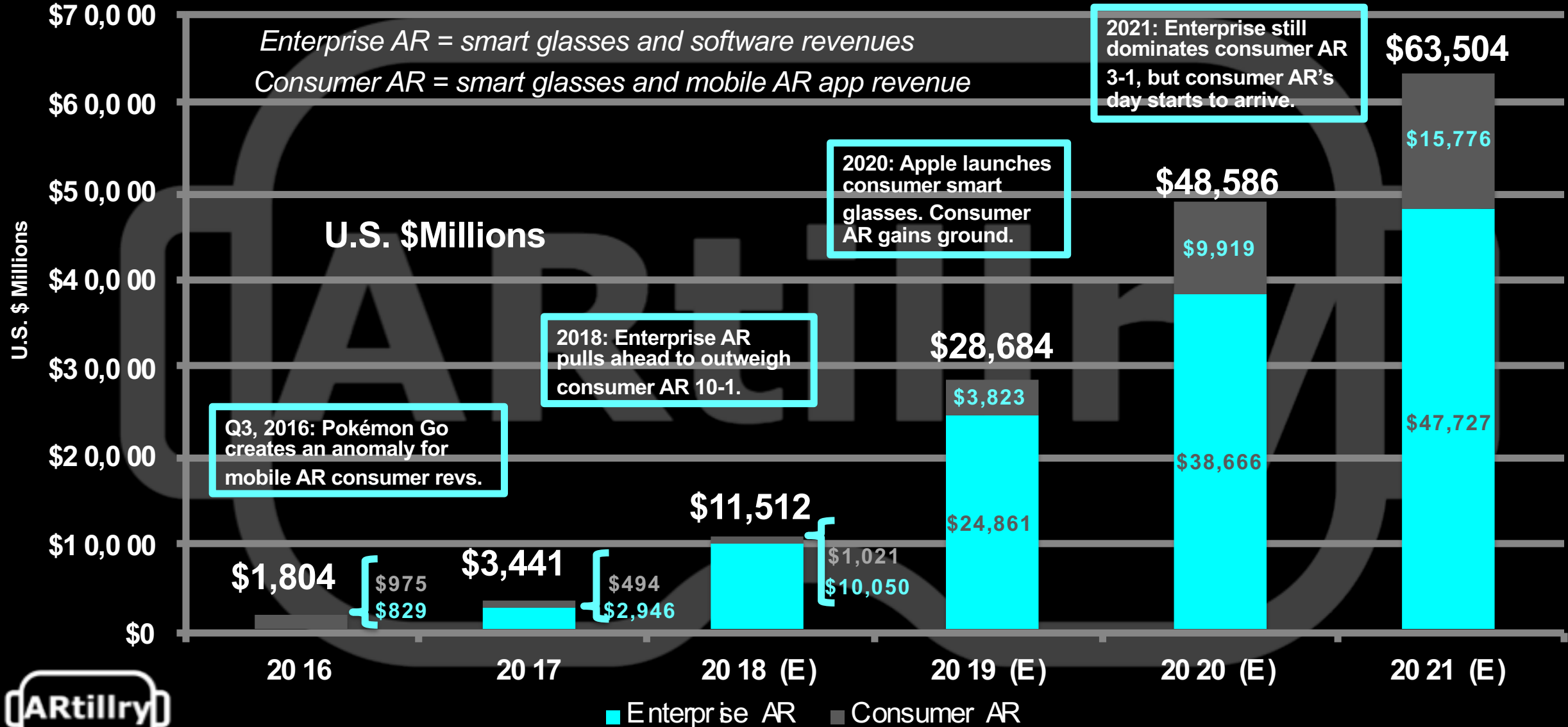
# GLOBAL AR: ENTERPRISE VS. CONSUMER

(SIMPLIFIED VIEW)



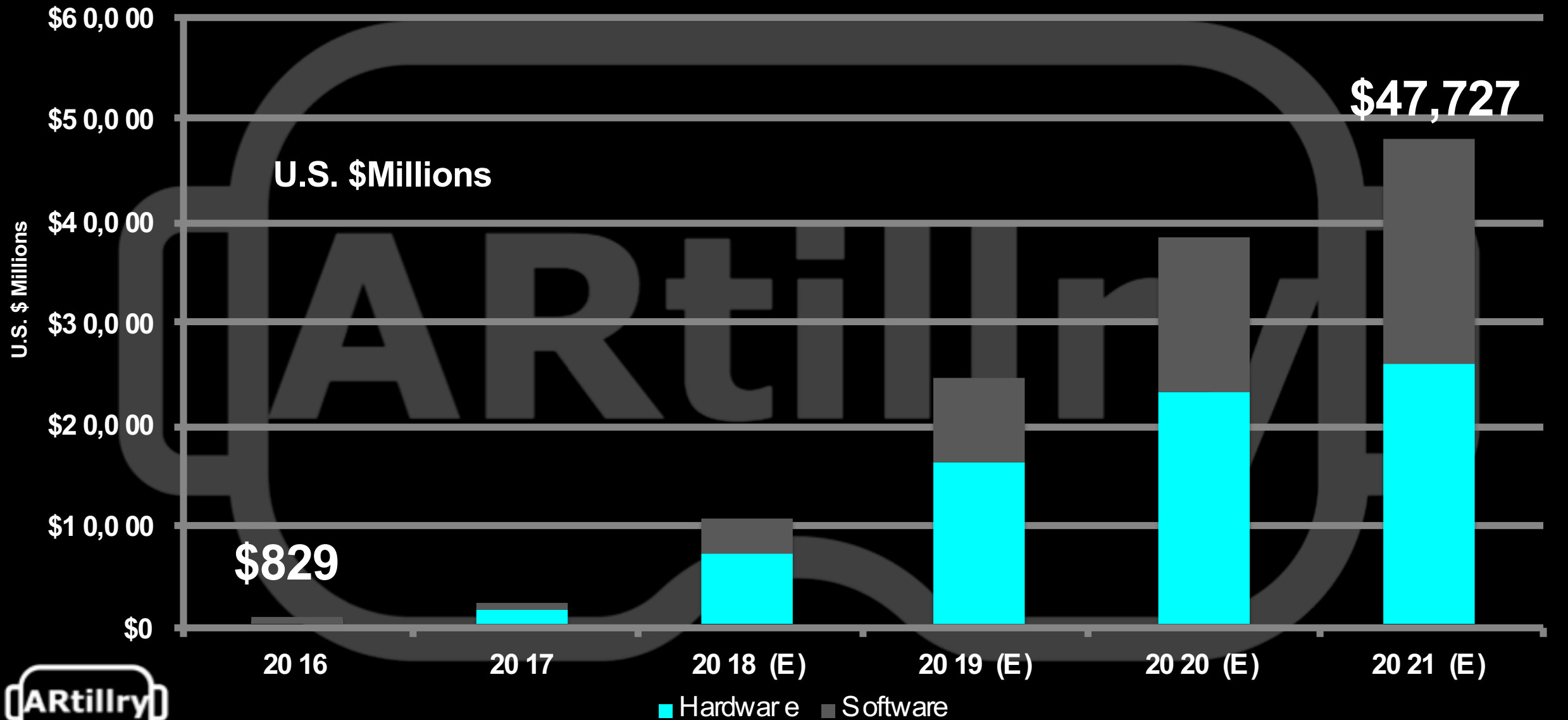
# GLOBAL AR: ENTERPRISE VS. CONSUMER

(DETAILED VIEW)



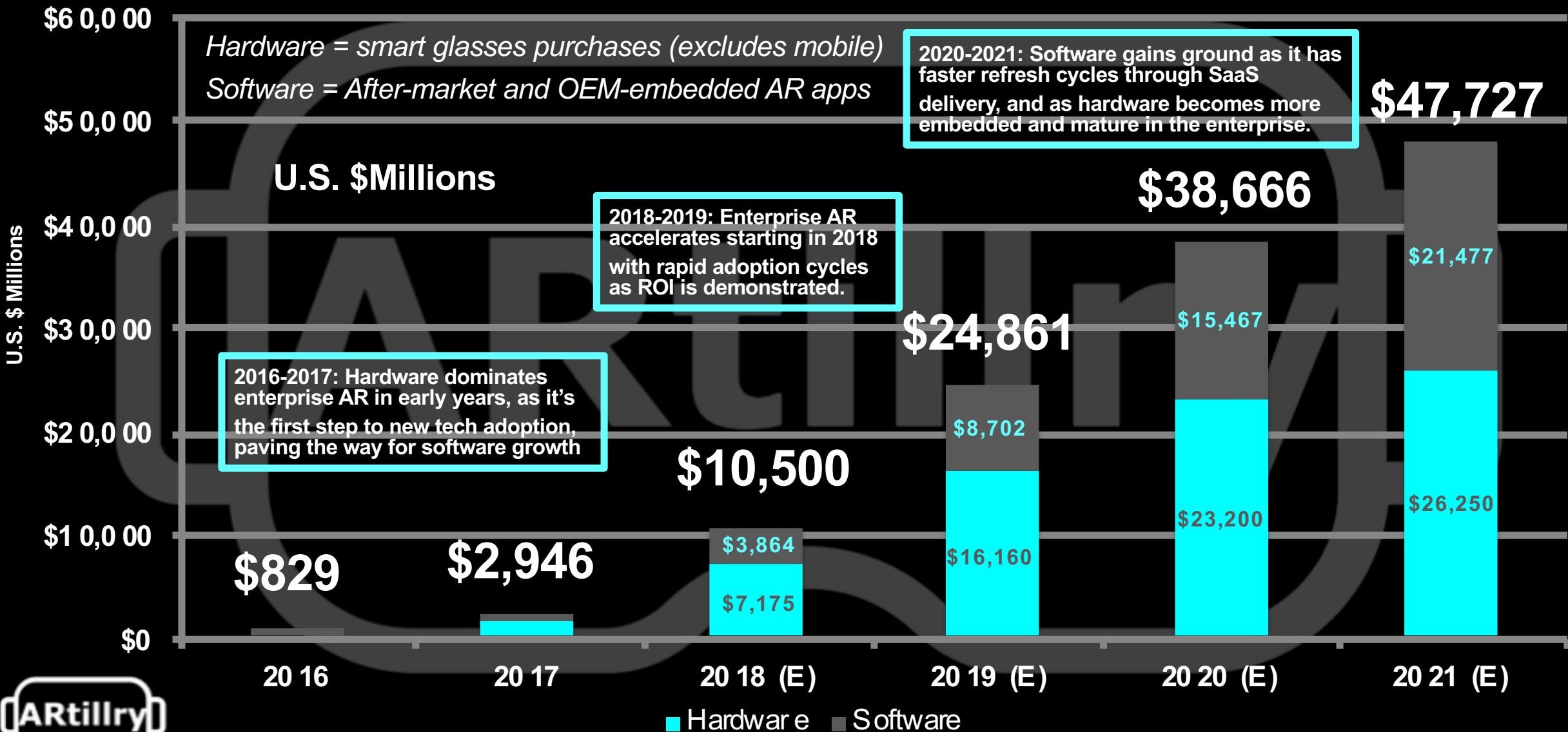
# ENTERPRISE AR: HARDWARE VS. SOFTWARE

(SIMPLIFIED VIEW)



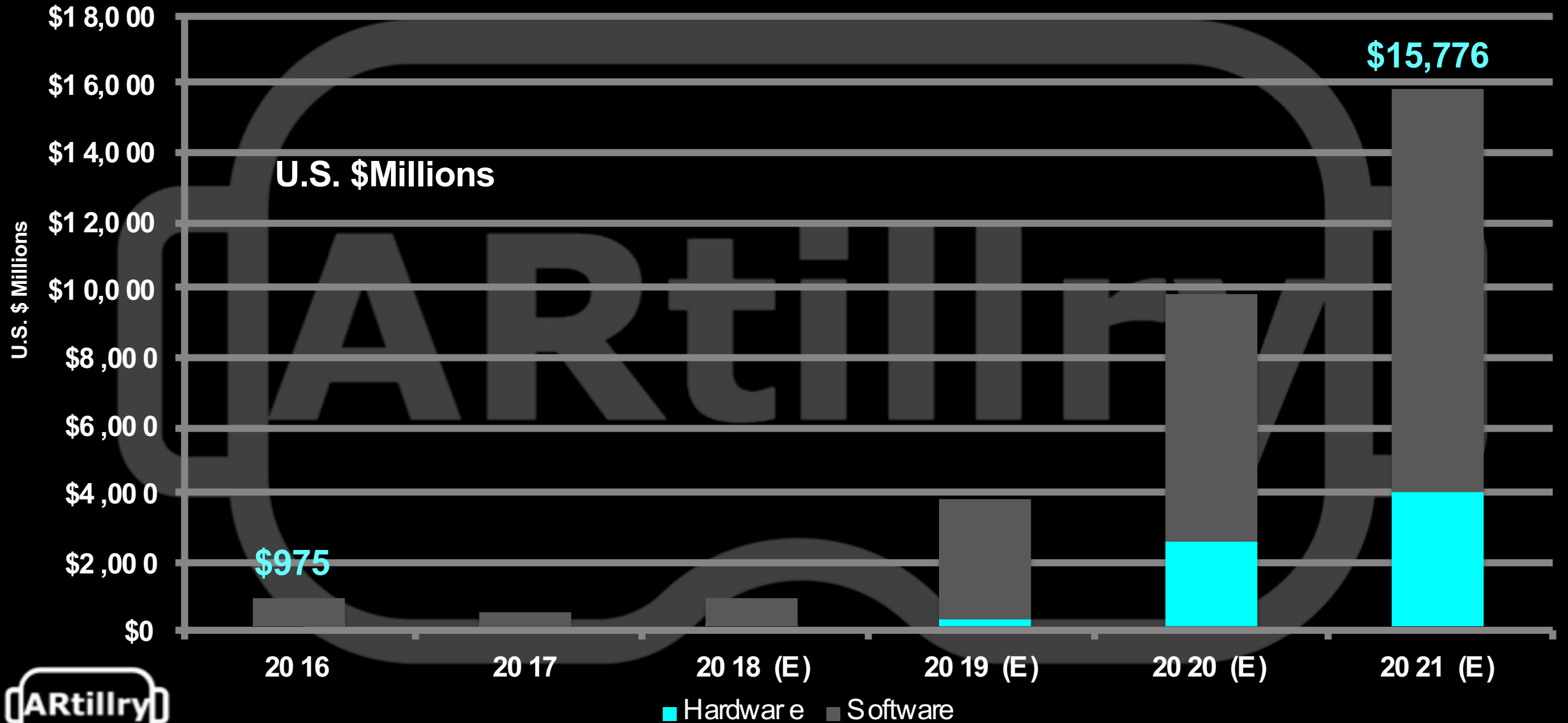
# ENTERPRISE AR: HARDWARE VS. SOFTWARE

(DETAILED VIEW)



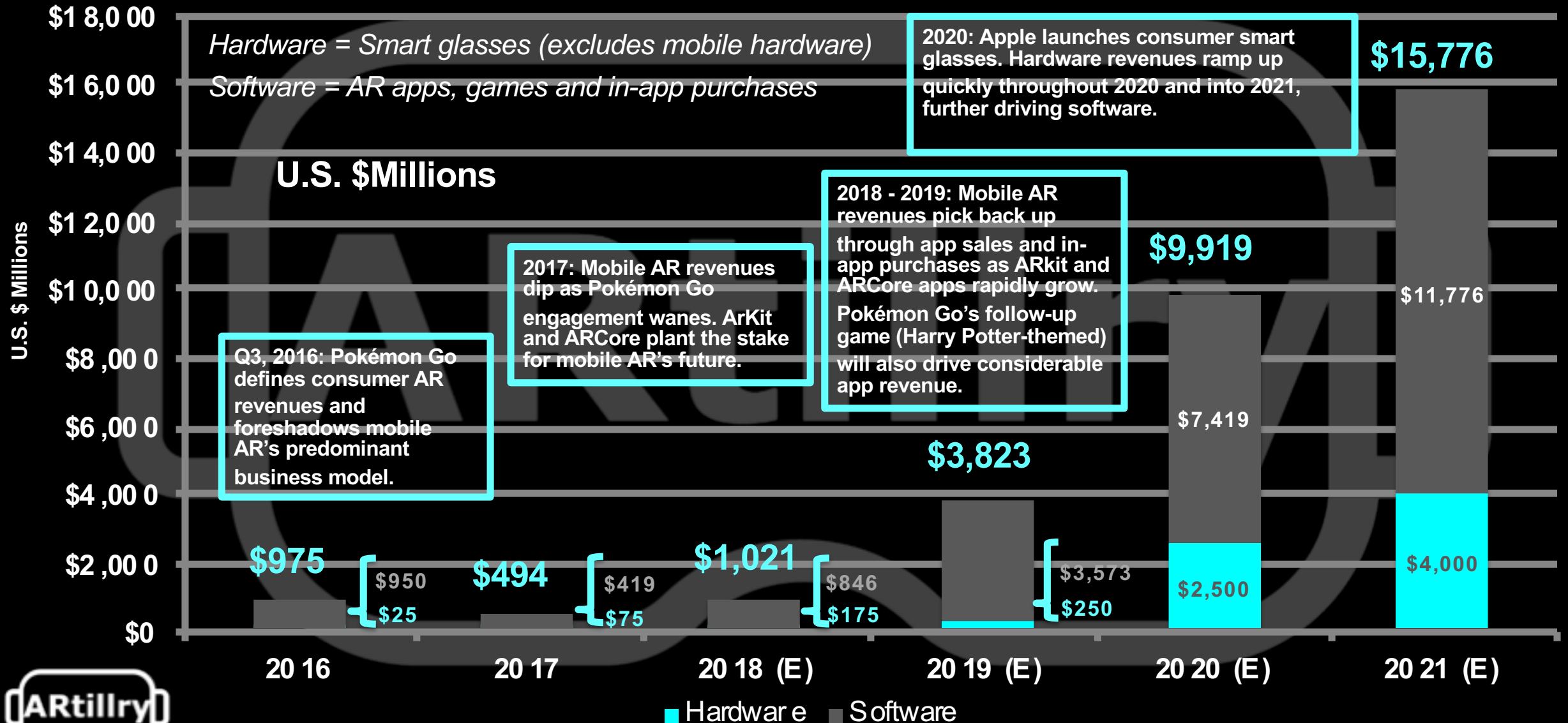
# CONSUMER AR: HARDWARE VS. SOFTWARE

(SIMPLIFIED VIEW)



# CONSUMER AR: HARDWARE VS. SOFTWARE

(DETAILED VIEW)



# **DEVICE FORECAST (MOBILE AR)**





# MOBILE AR: UNIT FORECAST

- As mentioned, AR devices in the near term will mostly be smartphones, whose sales are not included in AR & VR revenue projections.
- Mobile AR hardware (smartphones) isn't counted as AR revenue, because it's a ubiquitous consumer device on which AR's function is secondary.
- However, quantifying smartphones' AR compatibility on a *unit penetration basis*, can be a leading indicator for mobile AR software revenue.
- There are 3.2 billion smartphones globally, growing to 4.6 billion by 2021.\*
- Of those, 505 million are AR compatible in 2017, growing to 4.2 billion (92 percent compatibility) by 2021.
- This steep growth is driven by smartphone replacement cycles (2.5 years), which represent a phasing-in period for mobile AR.
- The pace of this phasing-in process will differ between ARkit and ARCore.



# MOBLE AR: UNIT FORECAST (CONT')

 Apple's ARkit will grow from 434 million compatible iPhones in 2017 to 673 million in 2021.

 ARkit has the nearer-term advantage, due to Apple's ability to mandate software updates across a more unified hardware base.

 Google's ARCore will grow from 72 million compatible phones in 2016 to 3.6 billion in 2021.

 ARCore is disadvantaged in the near-term, due to Android's fragmented hardware base that inhibits comprehensive software updates.

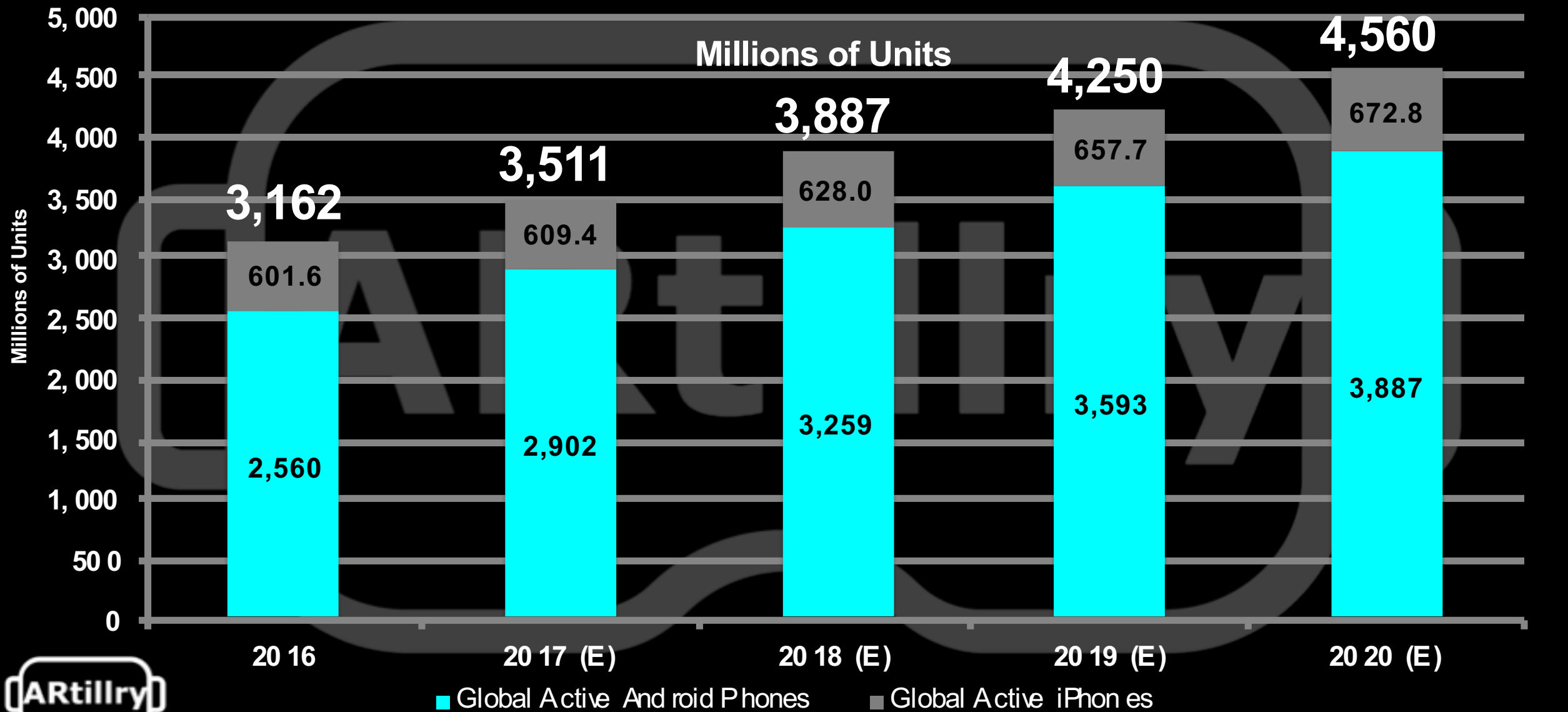
 However it has a longer-term advantage in scale: The Android universe (2.6 billion devices) is much larger than iOS (600 million devices).

 Collectively, mobile AR's massive installed base will incentivize developers to build content and apps. This will be a driving force for mobile AR revenues.\*



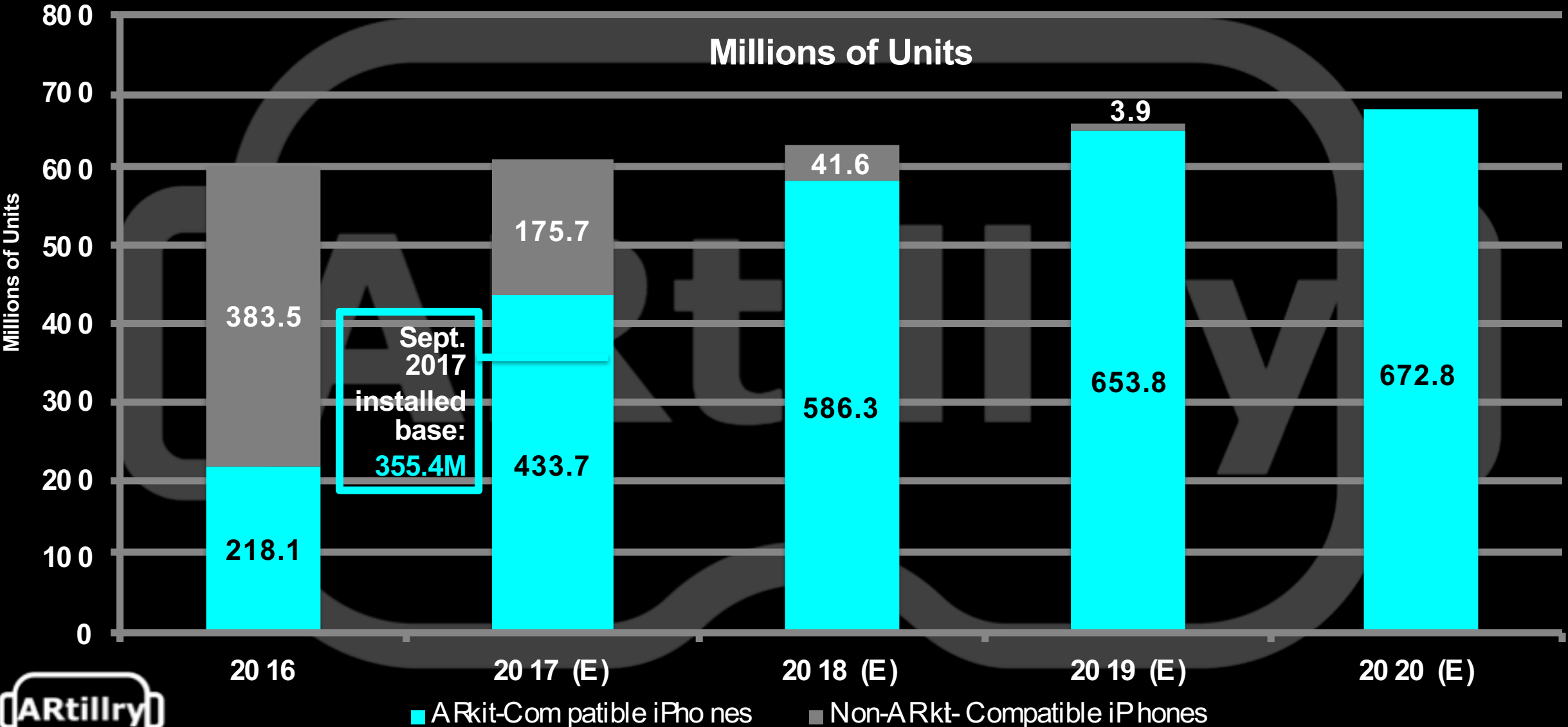
# INSTALLED BASE OF IOS AND ANDROID PHONES

*Global Active Smartphones Running Android or iOS*



# INSTALLED BASE OF ARKIT-COMPATIBLE IPHONES

*iPhones with A9 chip or greater (iPhone 6s or greater)*

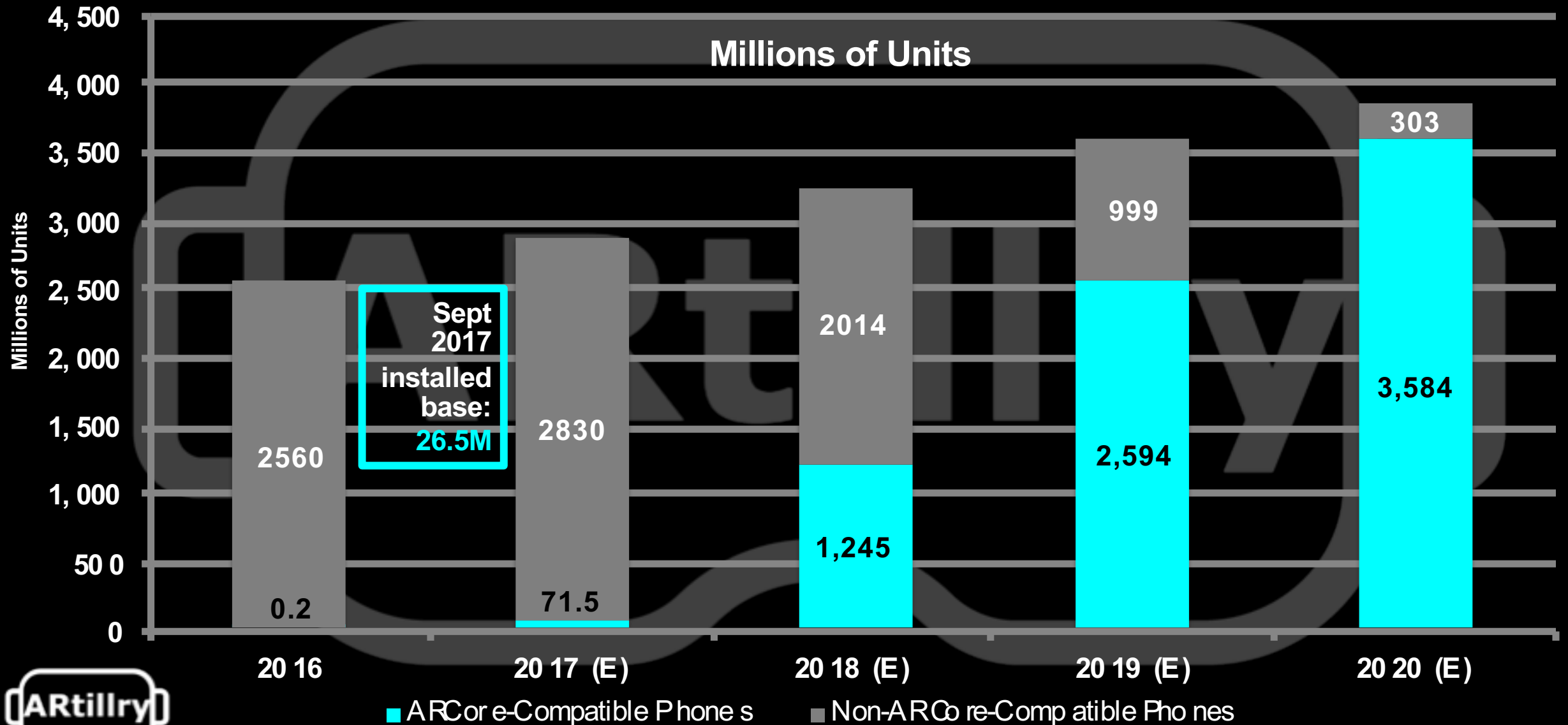


Sept.  
2017  
installed  
base:  
**355.4M**



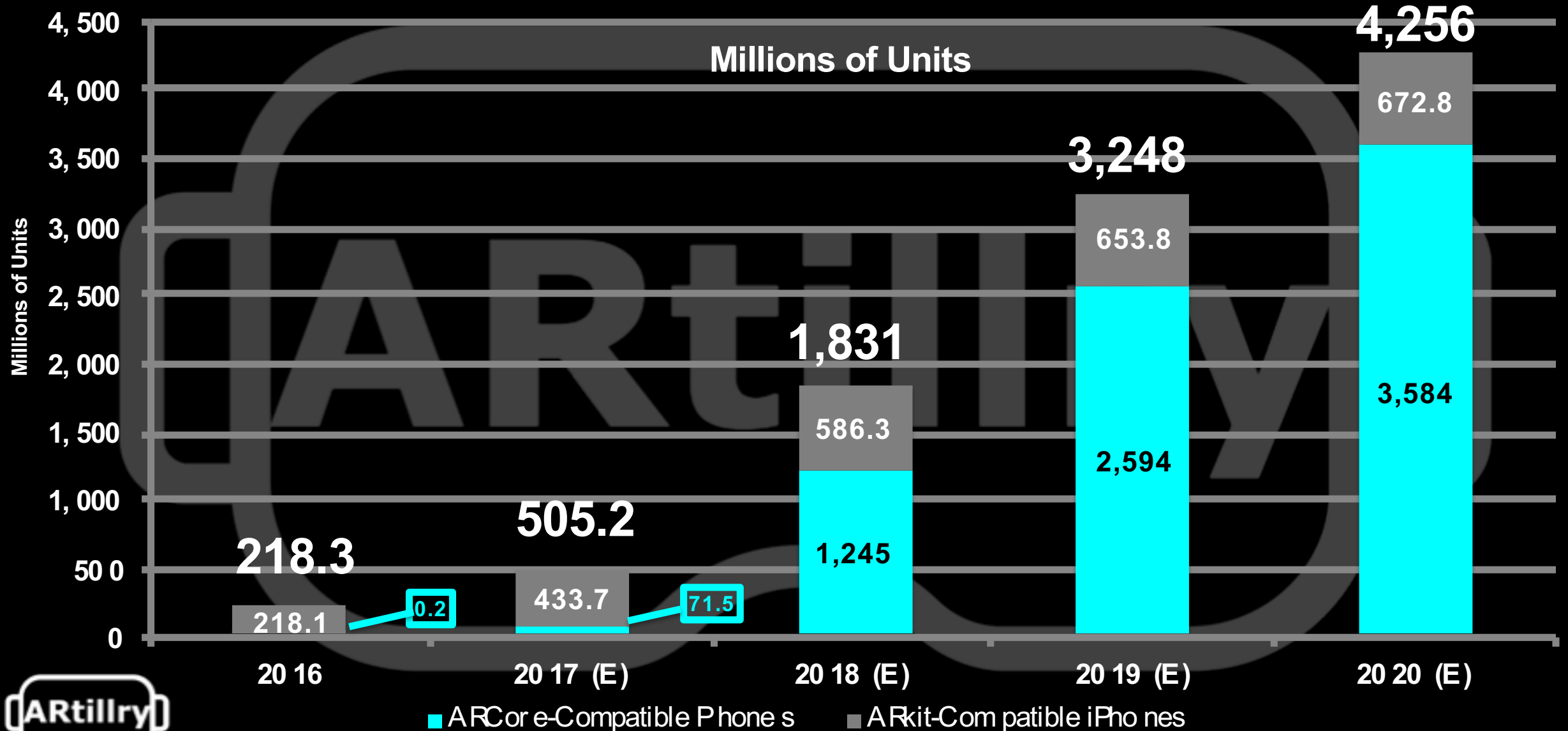
# INSTALLED BASE OF ARCORE-COMPATIBLE PHONES

*Phones with Android 7.0 (Nougat) or greater, starting with Google Pixel and Samsung Galaxy S8*



# INSTALLED BASE OF ARCORE AND ARKIT

*Global Handsets Compatible with ARCore or ARKit*










# **DRILLING DOWN ON VR**





# GLOBAL VR REVENUES

-  **Global VR product revenues will grow from U.S. \$2.3 billion in 2016 to U.S. \$15.9 billion in 2021, a 47.4% compound annual growth rate (CAGR).**
-  **The largest share of VR revenue in 2016 was consumer VR (71%), which continues to dominate through 2021.**
  -  **Enterprise comprises 71% of VR revenues in 2016 and 72% in 2021.**
  -  **Consumer comprises 29% of VR revenues in 2016 and 28% in 2021.**
-  **Consumer VR's dominance results from the form factor's alignment with consumer-gearred use cases, such as gaming and entertainment.**
  -  **VR will find valuable applicability in the enterprise, however its isolation inhibits some job functions and share of time per working day.**
  -  **Though its revenue share is smaller than consumer VR, enterprise VR is still an opportune and high-growth sector, reaching 4.4 billion in 2021.\***



\*This includes VR hardware and software sales only. It does not include services such as enterprise consulting. See slide 5.

# GLOBAL VR REVENUES

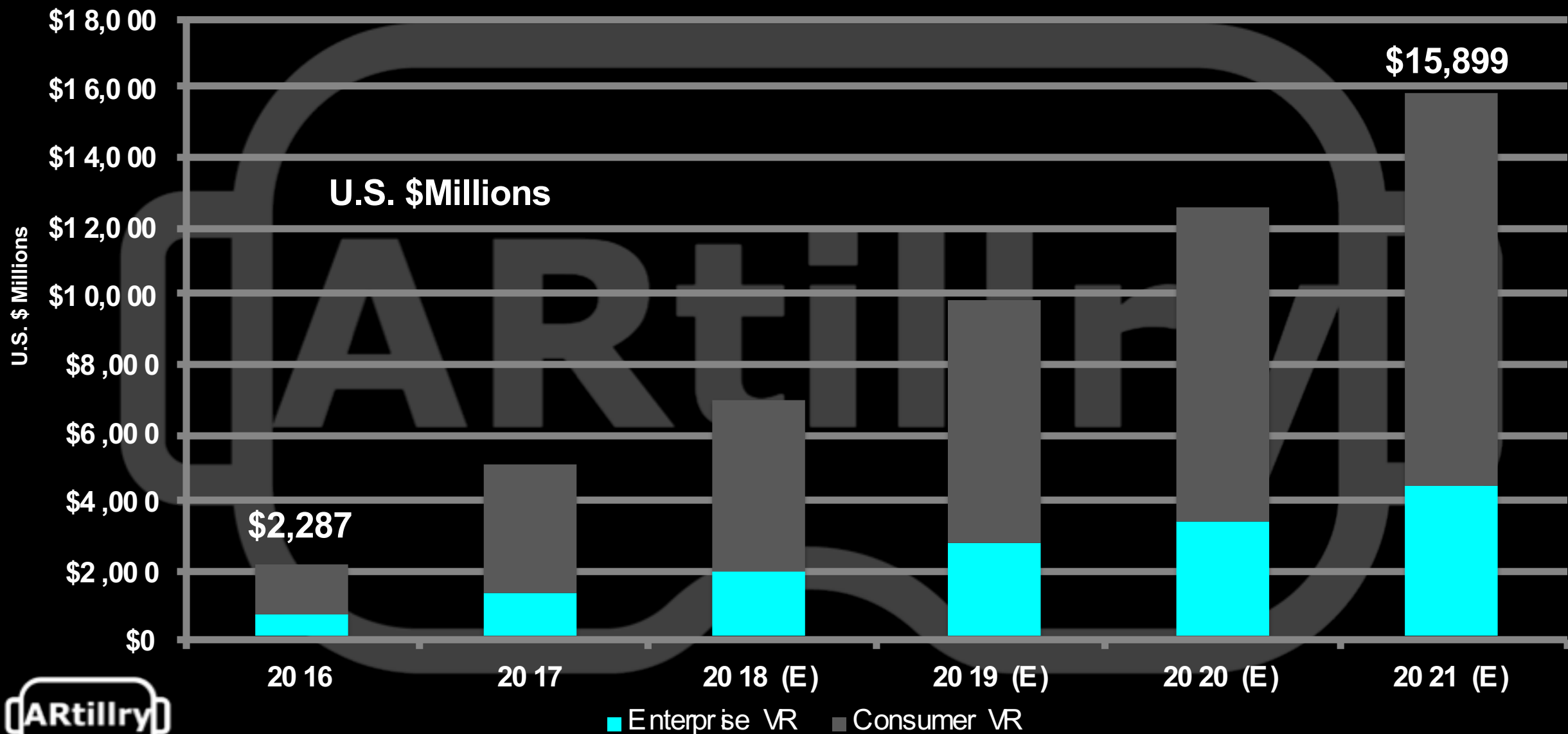
-  **Consumer VR revenues will be led by hardware in the near term, shifting over time to software.**
-  **Hardware often dominates early stages of new technologies, as it's the first step to adoption, creating an installed base for software growth.**
-  **VR software will overtake hardware in 2019 as headset revenue growth matures, and as software refresh rates outpace hardware replacement cycles. Greater content libraries will also boost consumer spending.**
-  **One of consumer VR hardware's greatest adoption drivers will be price competition among VR headset manufacturers (e.g. Oculus, Sony, Samsung).**
-  **Oculus Go, at a \$199 price point, will hit a sweet spot for quality and affordability, and will drive VR adoption and education starting in 2018.\***
-  **Oculus – with the advantage of Facebook-backing – has the flexibility to apply loss-leader pricing in order to trade margins for market share.**



\*See the next section for a breakdown of headset pricing and unit sales trending

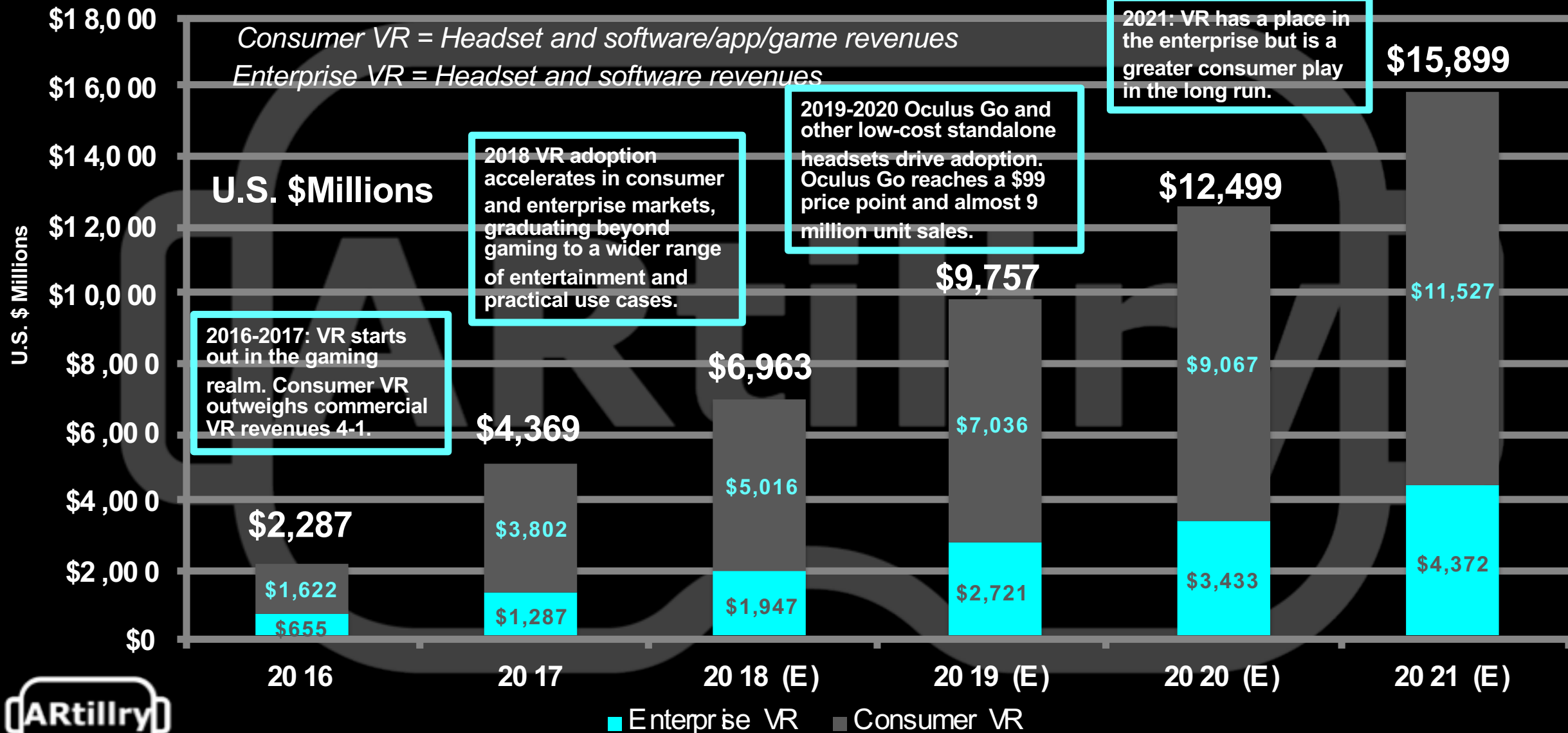
# GLOBAL VR: ENTERPRISE VS. CONSUMER

(SIMPLIFIED VIEW)



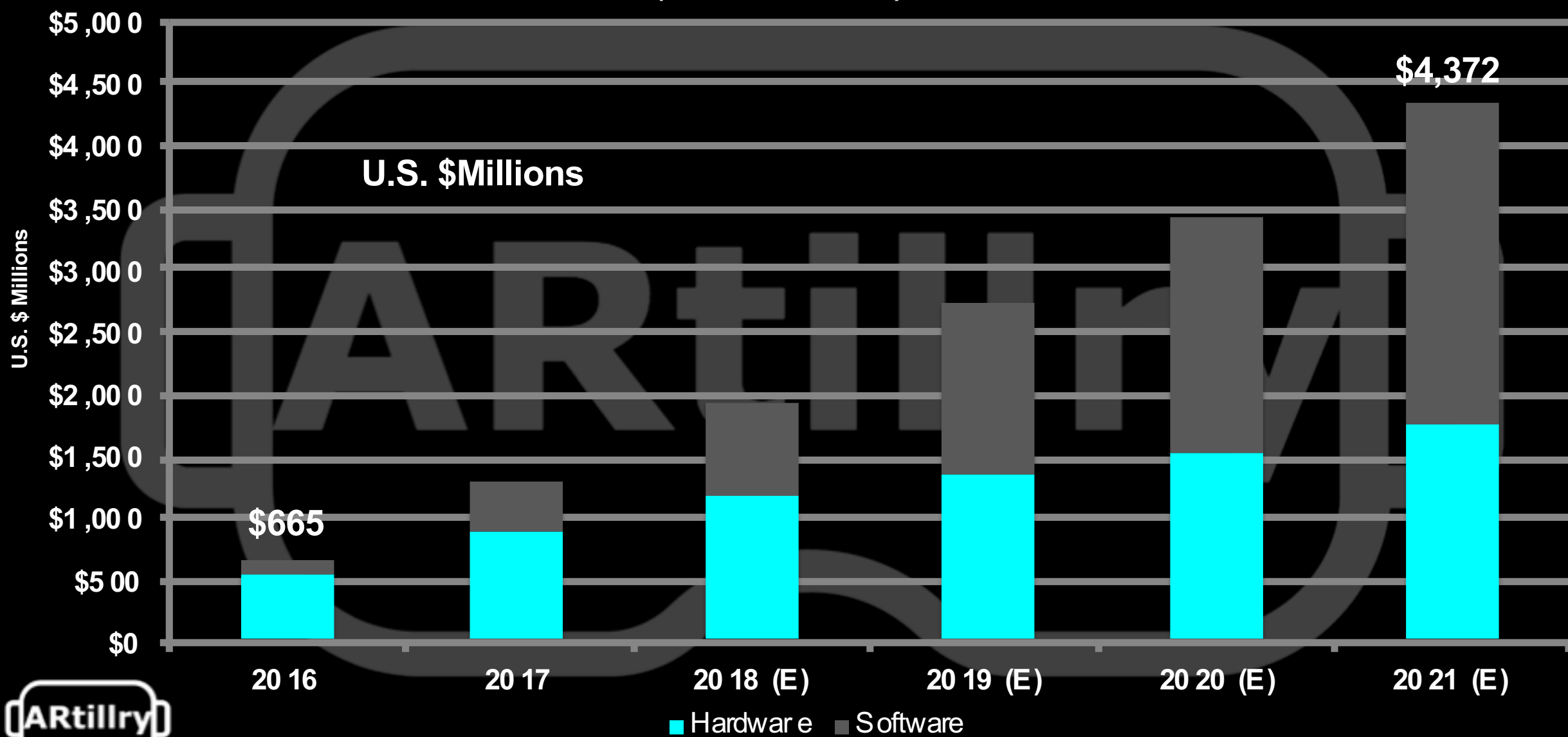
# GLOBAL VR: ENTERPRISE VS. CONSUMER

(DETAILED VIEW)



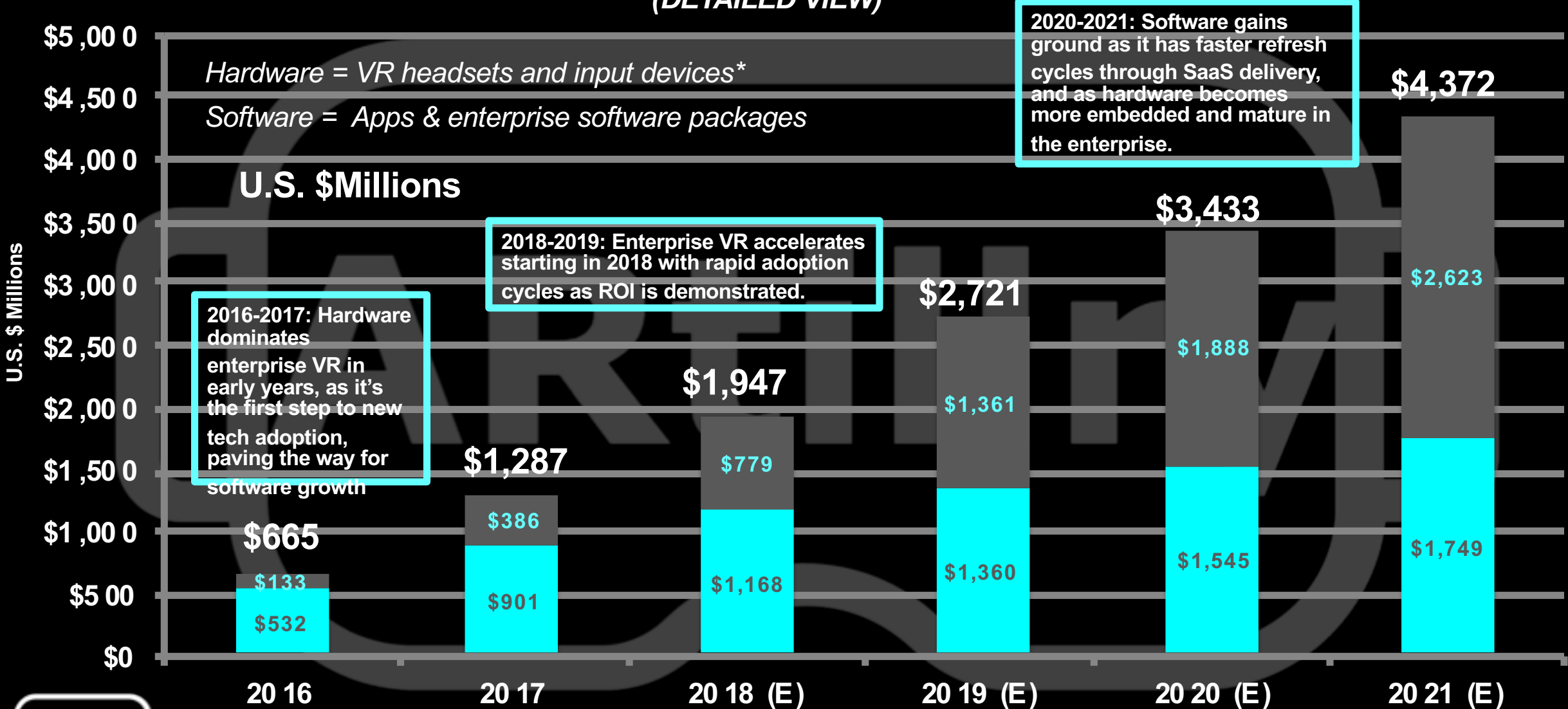
# ENTERPRISE VR: HARDWARE VS. SOFTWARE

(SIMPLIFIED VIEW)



# ENTERPRISE VR: HARDWARE VS. SOFTWARE

(DETAILED VIEW)

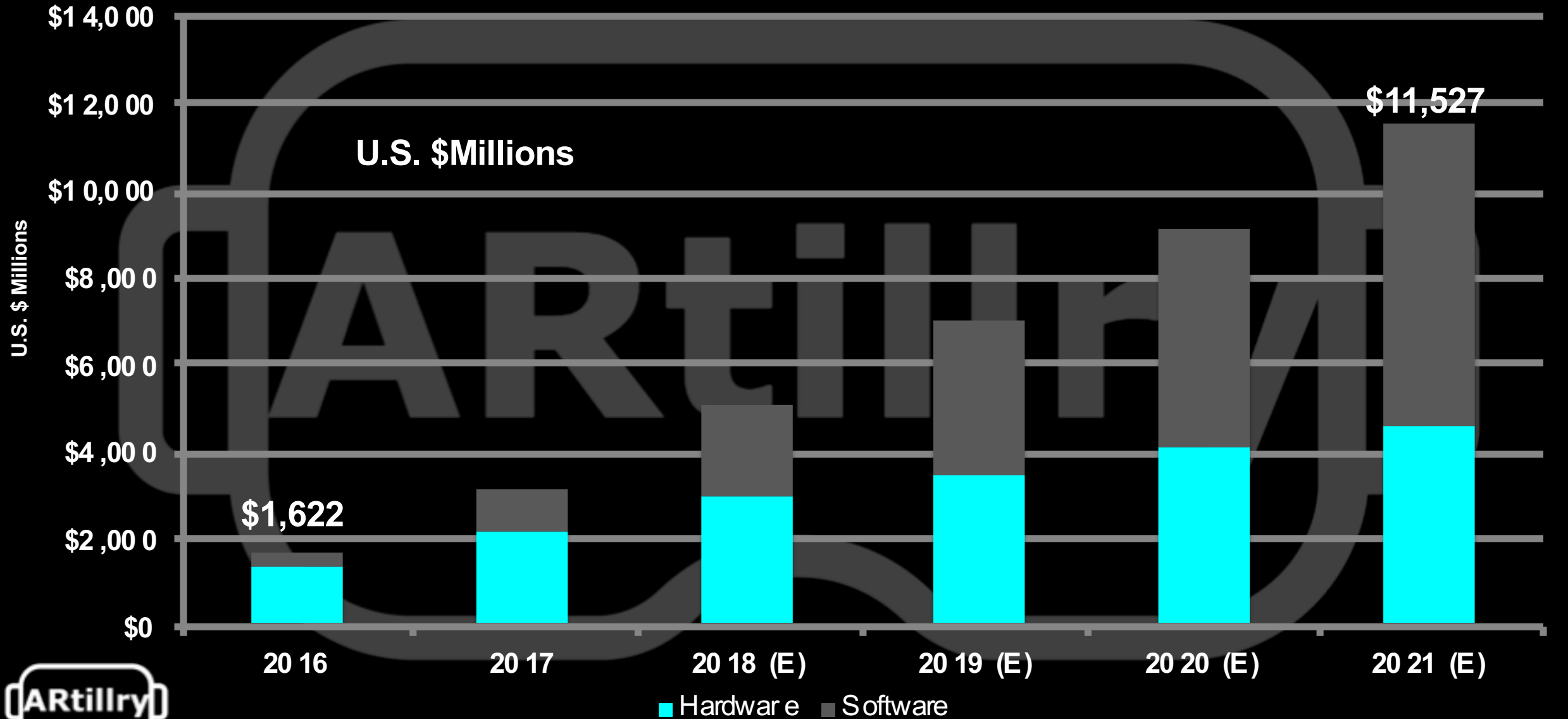


\* Includes product bundles with controllers or tracking hardware.  
Excludes PCs, game consoles or smartphone purchases

■ Hardware ■ Software

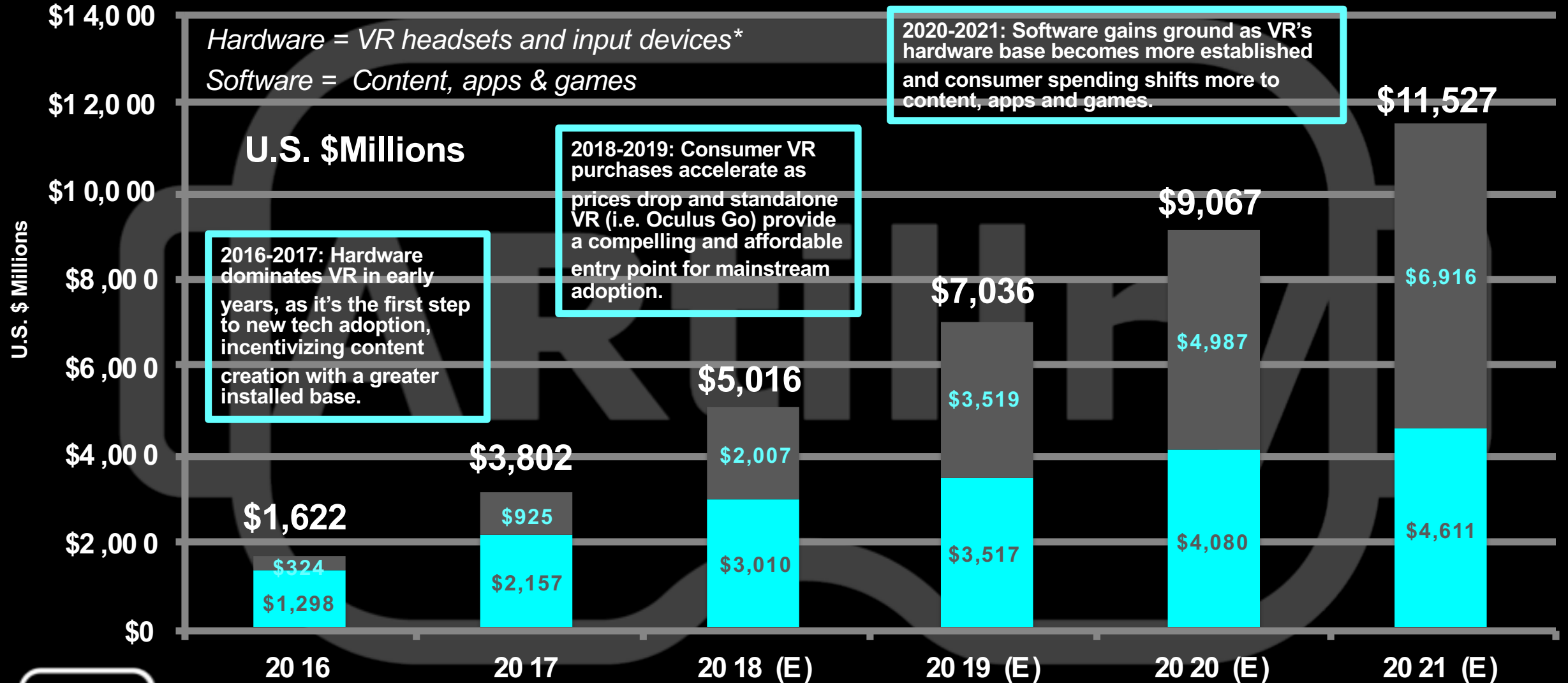
# CONSUMER VR: HARDWARE VS. SOFTWARE

(SIMPLIFIED VIEW)



# CONSUMER VR: HARDWARE VS. SOFTWARE

(DETAILED VIEW)



\* Includes product bundles with controllers or tracking hardware.  
Excludes PCs, game consoles or smartphone purchases

■ Hardware ■ Software





# DEVICE FORECAST (VR HEADSETS)



# VR HEADSETS

-  **Global VR headset revenues will grow from U.S. \$1.8 billion in 2016 to U.S. \$6.4 billion in 2021, a 28.9% compound annual growth rate (CAGR).**
-  **PSVR remain the market share leader for headset revenue, due to its large installed base (50 million units) for Playstation consoles.**
-  **The Windows Mixed Reality platform – applied to headsets built by a range of manufacturers (just like Windows is) – will be the fastest growing.**
-  **Oculus Go will also grow at a fast pace, but its smaller price tag (\$199) inhibits its overall share of VR headset revenues.**
-  **HTC Vive and Samsung Gear VR will perform relatively poorly versus competitors that have more flexibility for loss-leader pricing (i.e. Oculus).\***
-  **Oculus – with the advantage of Facebook-backing and a revenue model detached from hardware sales – has the flexibility to apply loss-leader pricing in order to trade margins for market share.**



\*See ARTillry article: <https://artillry.co/2017/11/15/th-dynamics-of-aggressive-vr-pricing/>

# VR HEADSETS: UNIT PROJECTIONS

-  In units, the global VR headset market will grow from 8 million in 2016 annual sales to 37 million in 2021.
-  The installed base of VR headsets will grow from 17 million to 77 million units during the same period.
-  VR headset pricing will trend downward over the forecast period, reducing from an average price of \$392.29 in 2016 to \$216.14 in 2021.
-  Price competition will be a key adoption driver, bringing VR's entry point down to levels that are in the range of higher consumer demand.\*
-  Price will also be fixed in the case of standalone VR headsets (such as Oculus Go) which don't require a separate PC, console or mobile device.

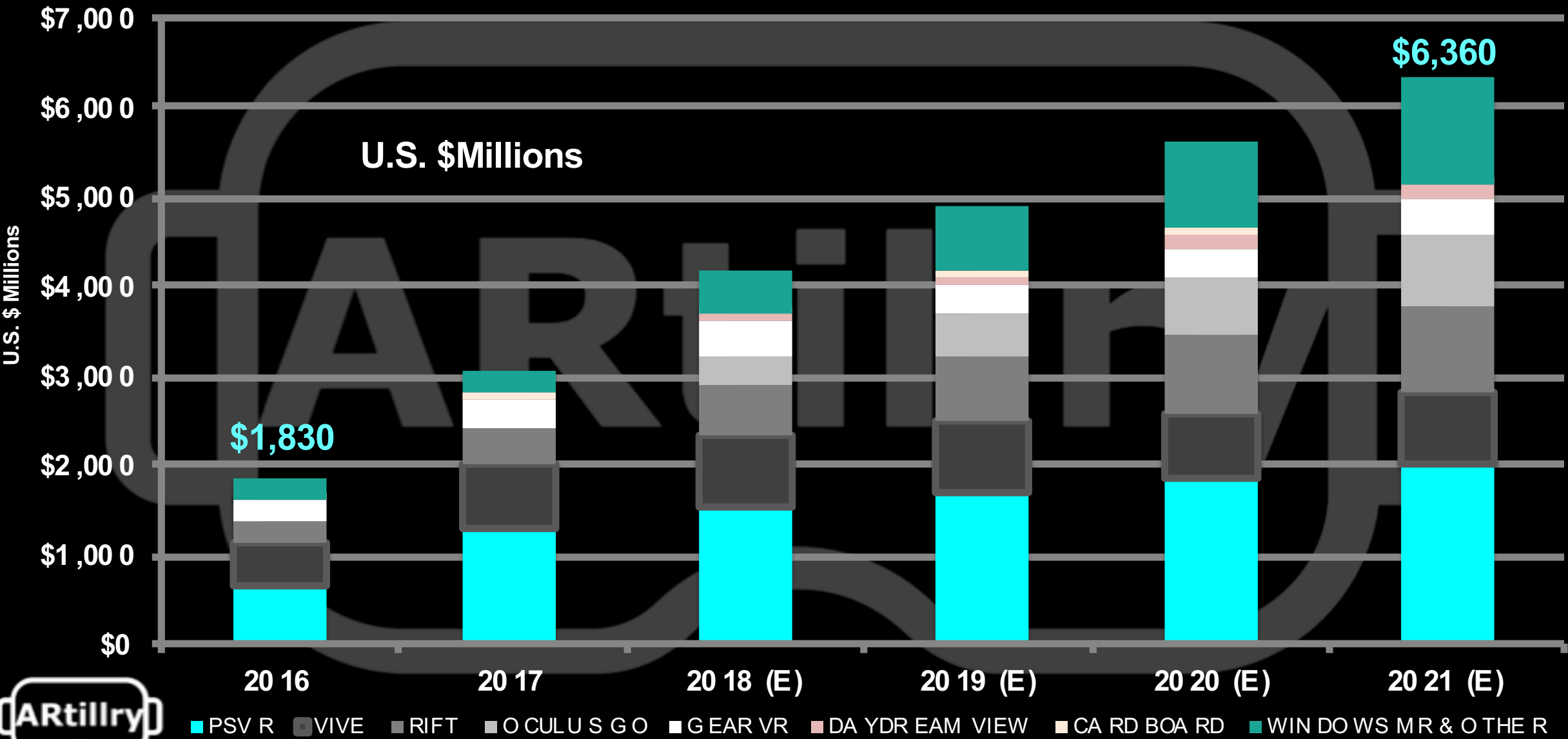


\*See Artillery Intelligence Briefing: [VR Usage & Consumer Attitudes](#) for original survey data on consumer pricing sentiments.

© Artillery Intelligence, 2017

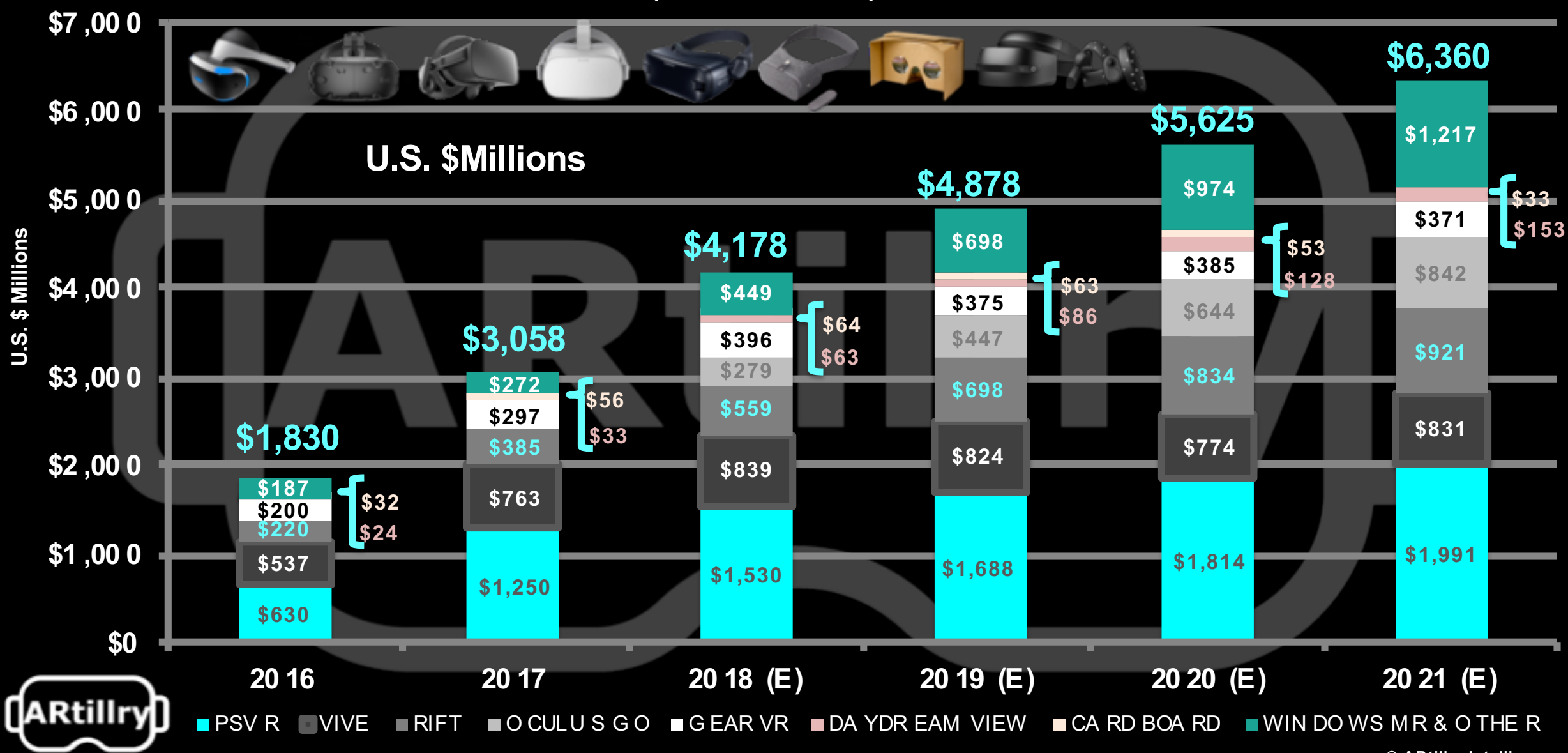
# GLOBAL VR HEADSET REVENUES

(SIMPLIFIED VIEW)



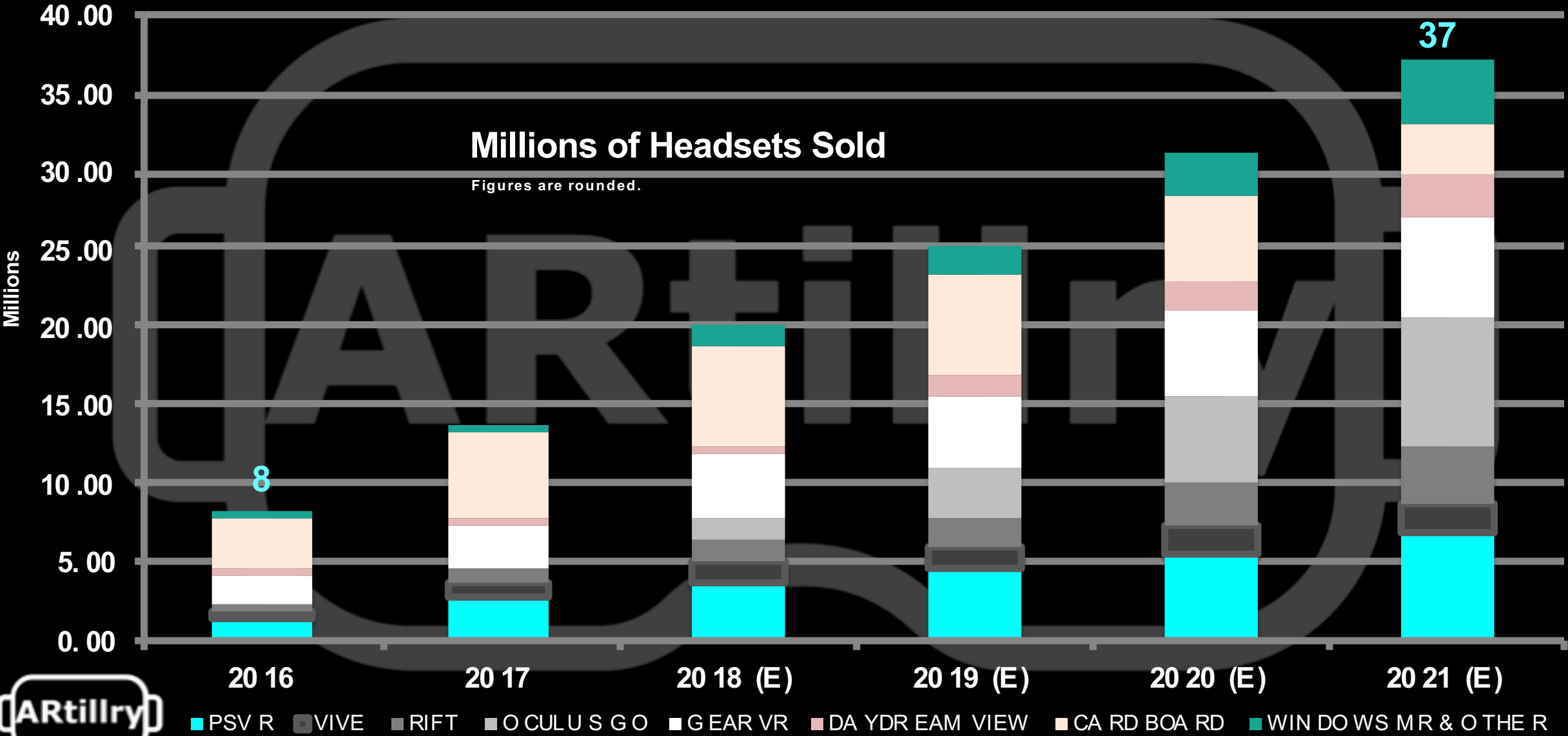
# GLOBAL VR HEADSET REVENUES

(DETAILED VIEW)



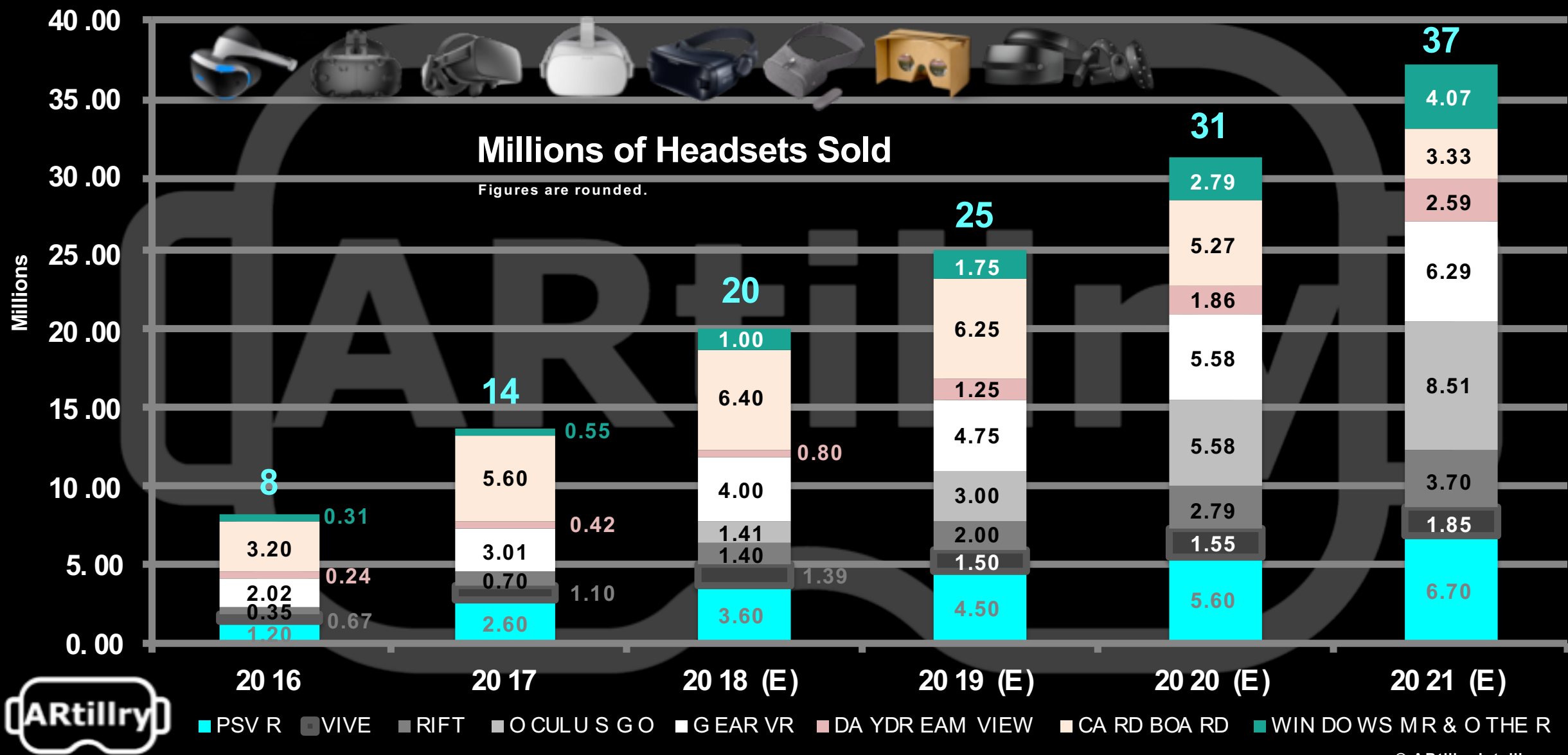
# GLOBAL VR HEADSET UNIT SALES

(SIMPLIFIED VIEW)



# GLOBAL VR HEADSET UNIT SALES

(DETAILED VIEW)



# GLOBAL VR HEADSET PRICING TREND

(SIMPLIFIED VIEW)

AVG: \$392.29

AVG: \$216.14



PSV R VIVE RIFT O CULU S G O G EAR VR DA YDR EAM VIEW WIN DO WS MR & O THER



# GLOBAL VR HEADSET PRICING TREND

(DETAILED VIEW)

AVG: \$392.29

Headset prices are averaged within any given year, due to fluctuations throughout the year. Pricing on bundled VR hardware is included (inputs and tracking equipment). Cost of PCs, consoles or mobile devices are not included.

AVG: \$343

AVG: \$321.29

AVG: \$281.29

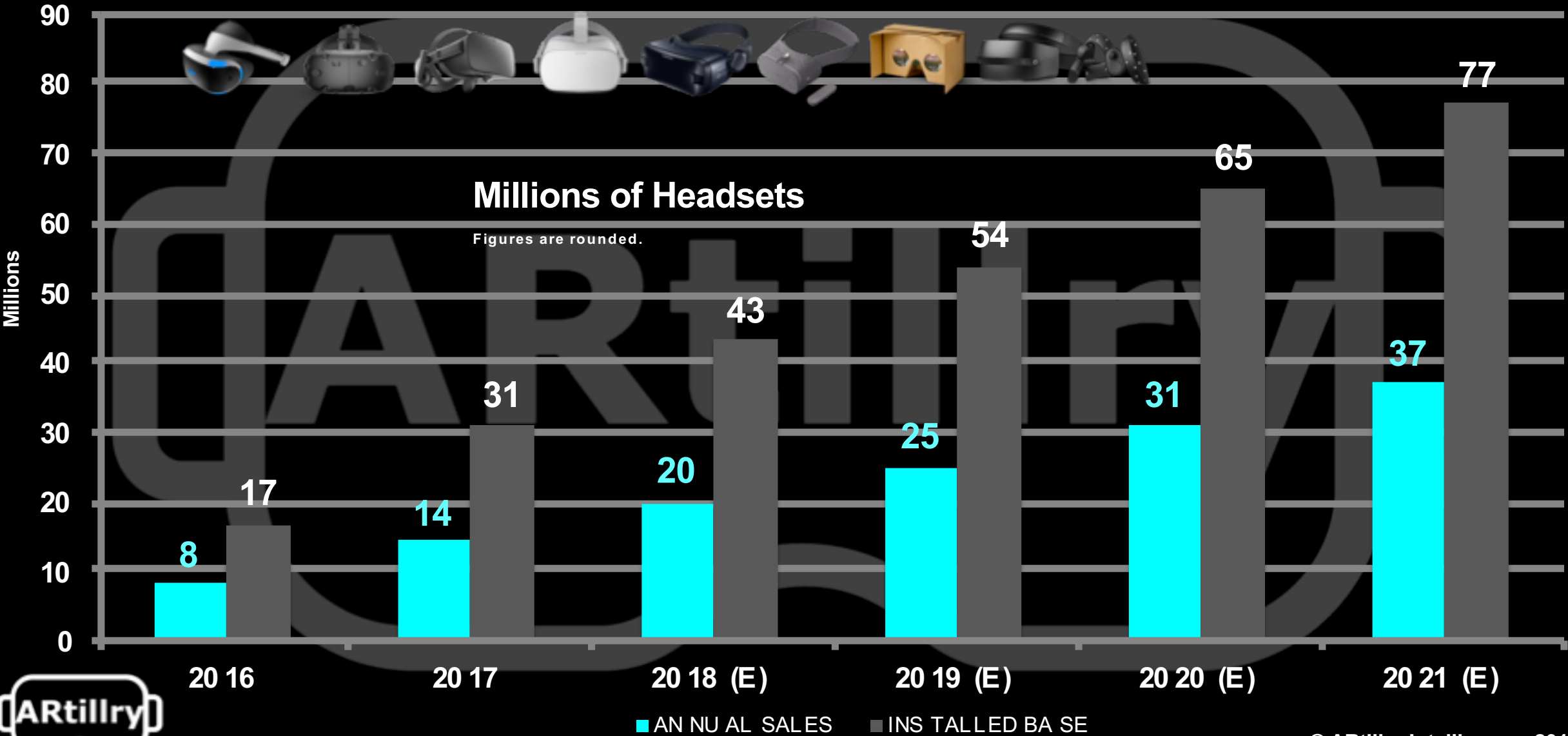
AVG: \$247

AVG: \$216.14



■ PSV R ■ VIVE ■ RIFT ■ O C U L U S G O ■ G E A R V R ■ D A Y D R E A M V I E W ■ W I N D O W S M R & O T H E R

# GLOBAL VR HEADSET INSTALLED BASE



# KEY TAKEAWAYS (REDUX)



# KEY TAKEAWAYS

Takeaways and growth dynamics for AR & VR sectors covered in this report.

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**Consumer VR** will grow from \$1.6 billion in 2016 to \$11.5 billion in 2021. Like enterprise VR, it will be hardware-dominant in early years as its installed base is established. Over time, software (in this case, games and apps) will eclipse hardware revenues with a faster refresh cycle. A greater installed base of hardware will also incentivize VR content creators to invest in long-form content, resulting in more robust VR content libraries and greater software spending per user (ARPU). Price competition among VR headset manufacturers (e.g. Oculus, Sony, Samsung) will also be a big consumer adoption driver. Oculus Go, at a \$199 price point, will hit a sweet spot for quality and affordability, and will drive mainstream VR adoption and education starting in 2018. Oculus – with the advantage of Facebook-backing – has the flexibility to apply loss-leader pricing in order to trade margins for market share. That will give it a strong competitive position versus players that are dependent on hardware revenue (i.e. HTC, Samsung).



# VIDEO COMPANION

(CLICK LINK TO PLAY VIDEO)

<https://youtu.be/pLLLZyvFD2k>



**ARTILLERY BRIEFS, EPISODE 9**  
AR & VR'S ROAD TO \$80 BILLION

# NEXT STEPS, REFERENCE & METHODOLOGY



# NEXT STEPS

In addition to standalone value, this forecast lays the groundwork for *ARtillry Intelligence* future deliverables. With the foundation of this data set, several subsequent narratives will be developed in the coming months.

One key action item for ARtillry Intelligence is to expand on this forecast data in a more narrative and long-form report. ARtillry Insights subscribers can stay tuned for that deeper-dive Intelligence Briefing in Q1 2018.

We will also update this data set bi-annually, projecting a five year time horizon with each forecast. We will expand the scope of this forecast over time as well, to include more categories of AR & VR spending such as immersive advertising.

We encourage questions and coverage suggestions at <https://artillry.co/contact/>





# ABOUT ARTILLRY INTELLIGENCE

ARtillery is a publication and intelligence firm that examines augmented reality (AR) and virtual reality (VR). Through writings, data and multimedia, it provides deep and analytical views into the industry's biggest players and opportunities. It's about insights, not cheerleading.

Run by career analyst and journalist Mike Boland, coverage is grounded in a disciplined and journalistic approach. It also maintains a business angle: Though fun and games permeate VR and AR (especially the former) long-term cultural, technological and financial implications are primary.

Learn more at <https://artillery.co/about/>



# ABOUT INTELLIGENCE BRIEFINGS

*ARtillry Intelligence Briefings* are monthly installments of VR/AR data and analysis. They synthesize original and third-party data to reveal the dynamics of VR and AR sectors, and their opportunities.

In addition to data, a layer of insights is applied to translate market events and raw figures into prescriptive advice. This takes form in a narrative story arc, grounded in market figures.

Questions and requests for deeper analysis can be submitted at: <https://artillry.co/contact/>



# ABOUT THE AUTHOR

Mike Boland was one of Silicon Valley's first tech reporters of the Internet age, as a staff reporter for *Forbes* (print) starting in 2000. He has been an industry analyst covering mobile and social media since 2005, and is now Chief Analyst of *ARtillry Intelligence*, covering emerging tech.

Mike is a frequent speaker at industry conferences such as VRLA, ad:tech and LeadsCon. He has authored in-depth reports and market-sizing forecasts on the changing tech & media landscape. He contributes regularly to highly read online news sources such as *TechCrunch*, *Business Insider* and the *Huffington Post*.

A trusted source for tech journalists, his comments have appeared in A-list publications, including *The New Yorker*, *The Wall Street Journal* and *The New York Times*.

Further background, history and credentials can be found at <http://www.mikebo.land/>

# METHODOLOGY

*ARtillry Intelligence* follows disciplined best practices in market sizing and forecasting, developed and reinforced through its principles' 15 years in research and intelligence in the tech sector. This includes the past two years covering AR & VR as a main focus.

This report focuses on AR and VR revenue projections in various sub-sectors and product areas. *ARtillry Intelligence* has built financial models that are customized to the specific dynamics and unit economics of each. These include variables like unit sales, pricing trends, market trajectory and several other micro and macro factors that *ARtillry Intelligence* tracks.

This is known as the *top-down* forecasting methodology. It is further vetted against a *bottom-up* approach which involves tallying aggregate venues and growth rates of industry players. Together, confidence is achieved through triangulating revenues and projections in a disciplined way.

More about ARtillry Intelligence's market-sizing credentials can be found at <http://www.mikebo.land/forecasting>

# DISCLOSURE AND ETHICS POLICY

ARtillry has no financial stake in the companies mentioned in this report, nor received payment for its production. With respect to market sizing, ARtillry remains independent of players and practitioners in the sectors it covers. It doesn't perform paid services or consulting for such companies, thus mitigating bias — real or perceived — in market sizing and industry revenue projections. ARtillry's disclosure and ethics policy can be seen in full at <https://artillry.co/about/disclosure-and-ethics-policy/>



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