Digital Profile: AT&T – 2023



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Catalyst



Catalyst

- AT&T has embraced the concept of essentialism—the disciplined pursuit of less—in recent years. In 2022, AT&T completed its series of divestitures of non-core assets to get to its goal of a more simplified company with a streamlined focus on 5G and fiber. The final two sales were its massive content unit, WarnerMedia, in April 2022, and Xandr, its digital ad unit, in June 2022. AT&T viewed the close of the WarnerMedia deal as the beginning of a new era for the company with a simplified, more focused business aiming to be the best broadband provider. With this, AT&T's plan is to ramp up investment in 5G and fiber, its key areas of growth.
- With the simplified focus of 5G and fiber, AT&T goes beyond just offering a connection to its customers. The company forges key agreements and
 partnerships that leverage 5G and create solutions for a variety of industries. For example, AT&T and IBM's ongoing partnership recently showcased IBM's
 hybrid cloud and AI technologies with AT&T's 5G technology for enterprise customers to innovate and tackle issues by exploring solutions in simulated
 environments.
- AT&T is also looking to be involved throughout the ecosystem. For example, with connected cars, AT&T is looking to move beyond just in-vehicle connectivity to end-to-end connectivity in the transportation ecosystem from the assembly line in the factory where the car is produced to in-vehicle services while the car is on the move and at all the locations a car goes (i.e., gas station, car dealership, charging stations, and so on).
- Finally, AT&T is reviving the Connected Solutions business it once had, in order to focus on IoT and connected cars. This is well timed because with 5G there is a chance for increased competition in the connected car segment. There will be two SIMs, one for the telematics/data transport and one for infotainment. The latter comes with a higher ARPU, and it is the area in which AT&T may see more competition.



Omdia view



Omdia view

- AT&T is in a unique position in that it recently retreated from a variety of digital service areas in order to streamline its business and focus to core connectivity. The result of this is a greater concentration of its digital services in the B2B segment, with a reduction in the B2C segment. IoT and connected car are big parts of what remains of AT&T's digital service business, and it nicely dovetails with AT&T's focus on core connectivity. One of AT&T's main focuses is 5G, where there are also going to be new IoT opportunities across a number of verticals such as manufacturing and healthcare, as well as opportunities with connected car.
- AT&T has been a long-time leader in connected cars, and the company is looking to continue this leadership in the 5G era. In order to
 have a focused effort on this, AT&T is resurrecting its connected car and IoT-focused "Connected Solutions" division, which was broken
 up years ago and integrated into other business units. All the more reason to resurrect this now: in recent years, AT&T has been seeing
 more competition in the connected car space, and it is expected to increase with 5G.
- AT&T's digital strategy is in flux because of the company's change in focus over the last 18 months. For example, AT&T no longer owns
 the HBO Max streaming service, so it is no longer offered with AT&T's highest tier of unlimited mobile plan. However, AT&T has indicated
 it may bundle something else in in the future. This would mean a potential future over-the-top (OTT) streaming product partnership;
 but, as of right now, this is a huge gap in its wireless offerings.
- A positive way the company's digital strategy is in flux is the announcement about resurrecting the Connected Solutions division, which shows that AT&T sees the importance of concentrated focus in this area now.



Recommendations



Recommendations



AT&T

- Partner with an OTT streaming service to replace
 HBO Max. AT&T is at a disadvantage compared to its
 peers by not offering an OTT streaming service
 bundled in with its mobile unlimited plans. AT&T
 removed HBO Max from its unlimited plan bundle
 shortly after completing the sale of WarnerMedia.
 AT&T could benefit from additionally partnering with
 a music service to include in with its unlimited plans.
- Continue to speed up 5G mid-band deployment.
 AT&T exceeded its 2022 mid-band 5G deployment goal. It is important that AT&T continue to push past its goals. AT&T is coming from behind its peers in the deployment of the important mid-band spectrum for 5G. This will make AT&T appear as a strong partner for IoT and connected car, as well as other digital services.



Other service providers

- Verizon and T-Mobile should capitalize on being further ahead with mid-band 5G deployments.
 Using this position, they can each go after some of AT&T's strength in the IoT and connected car segments.
- Mobile operators in other markets that are leading in 5G network deployments should also capitalize on this. By positioning themselves as a strong leader in the digital service enablement with 5G, these operators can go after share from operators that are further behind with their 5G deployments.



Vendors

- Partnering with operators is key to developing the ecosystem. Partner with operators with strong digital enablers like a 5G network with mid-band spectrum, coupled with strong interest in developing digital services. Partnership will be key to developing digital services.
- Partner with AT&T as the company enters its new era with a streamlined focus on 5G and fiber. As AT&T focuses on the new direction of its company, there is opportunity for vendors to partner with AT&T to guide them through this period, including with digital services opportunities.



Digital strategy snapshot



Digital strategy – Overview (1/2)

Discarded non-core assets, streamlined focus to 5G and fiber

In 2022, AT&T concluded a string of business divestitures of non-core assets to streamline its focus to 5G and fiber. Within this streamlined focus, AT&T remains focused on some key digital services too. For example, 5G is an important part of AT&T's connected car strategy going forward. AT&T also says it is strengthening its network to enable everything from smarter homes and cities to high-quality remote healthcare, AR and VR, and sophisticated collaboration tools.

Renewed, concentrated focus on IoT and connected car through Connected Solutions organization

- IoT and connected car have consistently been digital priorities for AT&T. This was recently strengthened with a restructure of this part of its business.
 AT&T revived its previous "Connected Solutions" organization to focus on IoT and connected cars going forward, especially with 5G connectivity. AT&T previously dispersed this organization into AT&T's larger Business Wireless unit. Now the Connected Solutions business is being put back together, sitting in the Emerging Business unit within the Corporate Strategy and Development organization.
- With the previous Connected Solutions business, AT&T had a dedicated team focused on IoT that helped AT&T's IoT business grow to the strong market position it is in. Now that the focused organization is being brought back together, AT&T is looking to drive its next decade of success. AT&T aims to accelerate momentum in IoT and connected car and focus on strategic growth opportunities.
- AT&T expects to initially sell 5G connections to carmakers and then expand into other sectors. The plan is to focus on the higher end of the IoT market,
 where customers will be more willing to pay for a premium 5G connection.



Digital strategy – Overview (2/2)

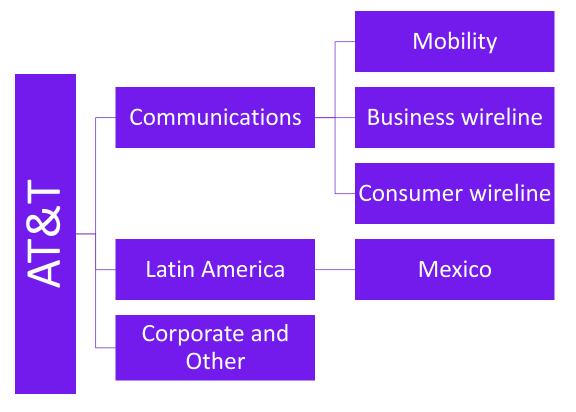
Divesting non-core assets changed AT&T's digital services portfolio

- When AT&T divested a variety of non-core assets, it reduced the number of digital service areas that it engaged in. When AT&T divested its TV business, the AT&T TV and AT&T TV Now streaming platform went with it. When WarnerMedia was sold, WB Games and HBO Max went with it. AT&T also offloaded the gaming studio Playdemic, the digital ad business Xandr, its Digital Life smart home business, and Vrio, the Latin America—based live and ondemand video service platform. The significance of the gaps left by these divestitures vary.
- Selling off portions of its business that included AT&T TV, AT&T TV Now, and HBO Max streaming services left a gap in a segment that has become a big business, and HBO Max is a big player in the segment. While AT&T no longer has streaming services of its own, it still has the opportunity to include OTT video in its digital services portfolio by forging partnerships. AT&T said it will evaluate entertainment options to bundle in with unlimited plans again in the future (HBO Max used to be offered with the highest tier of its unlimited plans).
- When AT&T closed its 3G network, it also stopped supporting its Digital Life smart home business, with many of these customers transitioning to Brinks
 Home. Digital Life was always a smaller part of AT&T's digital services portfolio, with the service area limited and subscriptions modest. This did not leave
 the same kind of gap in AT&T's digital services portfolio as losing the HBO Max streaming service.

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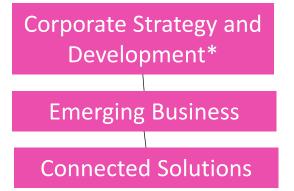


Digital strategy – Business structure



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Within Mobility sits AT&T's wireless business, which provides connectivity to all of AT&T's connected devices, including IoT.



Connected Solutions focuses on IoT and connected car.

Notes: *Unclear where this business sits.

Source: Omdia and AT&T

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Digital services at a glance



Main digital service focus areas

- IoT solutions and connected vehicles are the two most significant digital service areas for AT&T. The company ended 2022 with 107 million connected device subscriptions on its network, the vast majority of which are IoT connections. Within this, connected vehicles accounted for more than half or 56%. AT&T's involvement in these two digital service areas has been steadfast for a long time.
- On the other hand, AT&T's focus in other digital service areas has varied over the years. In the last 18 months, a lot has changed in AT&T's business and overall focus, and this has affected its digital service areas too. AT&T sold off non-core assets to focus on 5G and fiber. Strengthening its network will positively influence digital services, such as its key areas of IoT and connected vehicles. However, divesting assets did affect other digital service areas too, mainly the loss of OTT streaming services.
- The majority of recent changes to AT&T's digital service areas has been concentrated in the B2C segment; the B2B segment has remained steady except for the sale of Xandr, AT&T's digital ad unit.



Source: Omdia and AT&T © 2023 Omdia



Digital services activity: B2C (1/2)

AT&T, d	ligital	service	focus	areas

	Financial services	Online video		Digital music	E-health	Digital gaming	E-learning	Metaverse/XR	Smart home
Service brand		DirecTV Stream	Various			GeForce NOW			
Monetization model		Subscription-based; bundled with 2P/3P plans	Partner services offered as optional add-on subscriptions			Free trial offer			
Partnerships			Amazon Prime Video, HBO Max, Netflix			NVIDIA			

Notes: Pink indicates that the operator is currently offering services in this digital service segment. Source: Digital Consumer Operator Strategy Benchmark – 2H22, Omdia

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- AT&T has been involved in a range of B2C digital service areas over the years, with the company making adjustments from time to time. Currently, AT&T has offers in "online video" and "digital gaming."
- Part of the reason the variety of areas is small right now is due to AT&T's initiative to streamline its focus to its core connectivity business by divesting
 certain non-core assets over the last 18 months. One of the biggest changes AT&T made was the sale of WarnerMedia. In April 2022, AT&T's WarnerMedia
 merged with Discovery and spun off. WarnerMedia included the digital services of the HBO Max OTT streaming service and WB Games.
- Moreover, AT&T closed its 3G WCDMA network in 2022. With this, AT&T also exited the smart home business. Many AT&T Digital Life subscribers transitioned to Brinks Home following the closure.



Digital services activity: B2C (2/2)

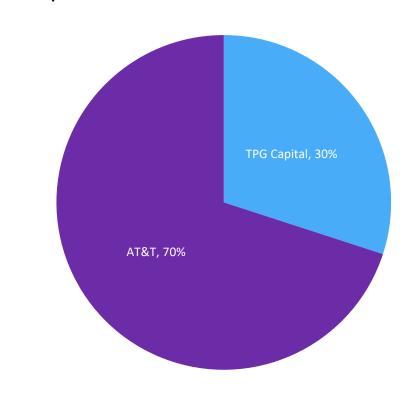
- AT&T also divested its video business in August 2021, which included AT&T TV and AT&T TV Now, but AT&T retains a 70% ownership in the new company, named DirecTV. Because AT&T still has majority ownership and it offers bundles of DirecTV Stream (rebranded from AT&T TV and AT&T TV Now) with AT&T's broadband service, online video is retained as an AT&T digital service area.
- The other B2C digital service area that AT&T is currently involved in is digital gaming. With this, AT&T presently offers six months of free GeForce NOW priority membership for new and existing 5G subscribers of unlimited plans. Previously, AT&T had a similar offer with Google's Stadia Pro.
- AT&T periodically changes its unlimited plans, giving them new names and changing what is included with the plans at the different tiers.
 In previous plans, AT&T had included Spotify Premium or Pandora Premium bundled in with AT&T's highest tier of unlimited plans, but with the most recent set of unlimited plans, there are no digital music offerings. This means digital music is a digital service area that AT&T is not currently involved in at all. This is the type of involvement that can change easily from time to time.



B2C digital service profile: TV and OTT

- In August 2021, AT&T divested its TV and video business, which included DirecTV satellite and U-verse IPTV services, as well as the AT&T TV and AT&T TV Now apps (now called DirecTV Stream).
- It did so by partnering with TPG Capital to form a separate company called DirecTV to own and operate the video business; AT&T maintains a 70% majority stake in the company.
- This was part of AT&T's bigger strategy to streamline its focus to 5G and fiber, while DirecTV is focused on TV and OTT video only.
- It is important to recognize that, while AT&T maintains a large ownership stake, it is not involved in the day-to-day operations of this business. These TV and video services are no longer considered part of AT&T.
- Instead, through its own website, AT&T offers bundles of AT&T broadband and DirecTV services. Therefore, in the context of digital services, AT&T does not have any OTT streaming services of its own but it does through a partnership with DirecTV.

DirecTV ownership



Source: Omdia © 2023 Omdia



Digital service activity: B2B

- While AT&T is currently in only a few B2C digital service areas, this is not the case with B2B. The one noteworthy recent change in the segment is the sale of Xandr, AT&T's advertising unit, to Microsoft, which was finalized in June 2022.
- AT&T is involved in a variety of B2B digital service areas, but the company is particularly strong in areas related to IoT; the connected vehicle segment is a particularly strong area of focus within IoT. AT&T offers a range of solutions for IoT, and it is currently showcasing featured solutions of Fleet Complete (all-in-one GPS fleet, asset, and worker management system), Asset Management (asset tracker), IoT Connectivity (LTE-M/NB-IoT and global SIM solutions), and Smart Climate Solutions (broadband-enabled solutions to reduce emissions and improve business performance). AT&T is also developing 5G-enabled IoT solutions.
- Within the connected vehicle segment, AT&T has begun forging deals for 5G connectivity, although LTE will remain the dominant technology in this space for the foreseeable future. AT&T turned off its 3G WCDMA network in February 2022, which affected a variety of car models that had 3G connectivity.

AT&T, digital service focus areas

Financial services	Connected vehicles	Videoconferencing	IoT solutions	Smart city	Enterprise digital services

Notes: Pink indicates that the operator is currently offering services in this digital service segment.

Source: Omdia

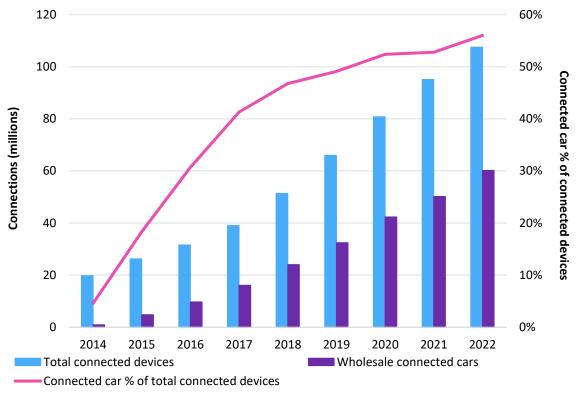
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B2B digital service profile: Connected cars (1/2)

- AT&T's network supports many IoT connections, and connected cars account for a significant portion of these connections. Each year connected cars grows as a portion of connected devices. In 2014, connected cars accounted for just 5% of total connected devices; as of the end of 2022, connected cars accounted for 56% of AT&T's connected devices.
- AT&T added 9.98 million connected cars during 2022, which were the
 highest net additions of all time for this segment. Except for 2021, net
 additions have increased every year. There was a decline in net adds in
 2021, when 7.9 million were added; this dip was likely related to the
 worldwide chip shortage and supply chain issues stemming from the
 COVID-19 pandemic. Despite any lingering challenges with chipset supply,
 growth in net additions has returned to this segment.
- In 1Q22, AT&T shut down its 3G network, which caused a sharp decline in connected devices that quarter; AT&T reported 8.3 million connected device disconnections as part of the shutdown. Among the devices that lost their connection were older model cars from a variety of manufacturers.

AT&T connected device and car trends, 2014–22



Source: Omdia © 2023 Omdia



B2B digital service profile: Connected cars (2/2)

- According to AT&T, it connects more vehicles than any other carrier. It works with 27 automakers, at last count.
- Some of the most recent developments in the space for AT&T are the following:
 - In September 2022, AT&T announced it would embed 5G connectivity in the Ford Super Duty truck, the first truck in the US to get it.
 - In December 2022, AT&T also announced it would provide the 5G connection to select Polaris off-road vehicles for the 2023 model through Polaris's RIDE COMMAND+ plug-in accessory device.
 - In December 2022, AT&T announced select BMW models, including the i4, ix, and select 2023 BMWs equipped with the BMW Personal eSIM, can become connected cars with AT&T's NumberSync. This syncs the BMW owner's smartphone number with their car.
- Looking ahead, AT&T is working to further innovate transportation, leveraging its leadership in the connected car and IoT spaces as well as its position as a provider of nationwide 5G connectivity. Examples include connected cars interacting with traffic lights and seeing around corners, cars becoming mobile wallets by using blockchain and IoT, and so on.



Partnerships, joint ventures, acquisitions, and alliances



Business alliances, M&As, and joint ventures

February May January AT&T and IBM's ongoing partnership most recently showcased Boston Dynamics' robot, "Spot," partners AT&T partnered with NVIDIA to offer, for free, six IBM's hybrid cloud and AI technologies with AT&T's 5G months of NVIDIA's new Ultimate-tier membership for with AT&T for 5G, which will allow Spot to technology for enterprise customers. The collaboration includes do even more tasks thanks to the high its GeForce NOW cloud gaming to both AT&T 5G and fiber customers. The Ultimate tier provides the lowestsimulated environments to show how enterprise customers across reliability and low latency 5G provides. all industries can use these technologies to innovate and tackle latency cloud gaming experience. challenges. 2022 2022 2023 2022 2022 **April** May Northrop Grumman Corporation and AT&T entered into a JBG Smith and AT&T partnered on the US's first collaboration agreement to research and develop a digital 5G smart city at scale, at National Landing in battle network, powered by AT&T 5G and Northrop Arlington, Virginia. Grumman's advanced mission systems, to support the US

Source: Omdia and AT&T



Department of Defense (DoD).

Business alliances, M&As, and joint ventures – Key highlights

- Over the years, AT&T grew parts of its digital service business through a range of methods, including M&A and partnerships.
- In an area that remains key for AT&T today—that is, connected cars—AT&T has developed relationships with many automakers (27 at last count). Most recently, AT&T expanded to connect the first truck with 5G and to connect off-road vehicles.
- AT&T has had a long-standing relationship with Cisco in the area of IoT. Cisco provides its IoT platform for the AT&T Control Center, a cloud-based platform that helps AT&T IoT customers manage their devices.
- AT&T and IBM have been partners working together to innovate and help enterprise customers for 25 years. Recently, the two have been collaborating on edge computing platforms to help enterprise customers take advantage of 5G speeds and connected devices and sensors that are at the edge of the network.
- AT&T has partnerships with both Microsoft Azure and Google Cloud for mobile edge computing solutions. The partnerships include
 creating network edge zones throughout the US. These solutions bring applications closer to end users, which can help in building
 innovative IoT solutions in verticals such as automotive, healthcare, manufacturing, and entertainment.



Digital services' financial and operational performance



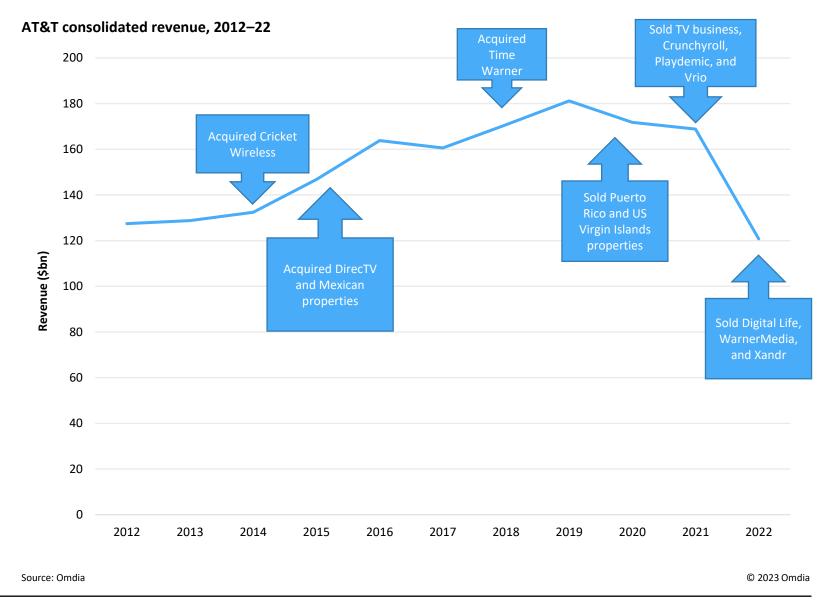
Financial and operational results overview

- AT&T does not directly report on many aspects of its digital services, including financial KPIs. However, AT&T does report connected devices (the vast majority of which is IoT) and connected car annual net additions. These are the two more significant digital service businesses for AT&T. Therefore, it is possible to understand some aspects of AT&T's digital service business performance.
- AT&T's connected car business represents more than half of the company's IoT connections. The connected car segment has been growing stronger than IoT overall on an annual basis. In 2021, AT&T's connected car business experienced lower growth than normal, likely owing to the worldwide supply chain and chip supply issues related to the COVID-19 pandemic. In 2022, the segment's growth rebounded, despite a negative impact from the closure of AT&T's 3G network in 1Q22.
- AT&T's IoT segment, including the connected car business, took a hit in 1Q22 when AT&T shut down its 3G network. Millions of devices with a 3G chip lost connection. AT&T said 8.3 million connected devices were affected. The connected device segment reported a loss of 4.381 million in that quarter, compared to a typical quarter of 4–5 million net adds. The segment still reported year-over-year (YoY) growth of 13% in 2022. This is in comparison to a growth rate of 18% in 2021 and 22% in 2020. In general, the growth rate has been slowing YoY.
- Overall, connected device numbers have nearly doubled in the last four years for AT&T, from 51.3 million at the end of 2018 to 107.5 million at the end of 2022. This is a category AT&T is working hard to grow, underscored by the return of the Connected Solutions business to focus on it, and 5G presents more opportunities for the company to grow this segment.



Financial results – Consolidated revenue

- At one time, AT&T was aiming to become more of a media company, but it has now refocused on its core business of providing broadband connectivity.
- AT&T's 2015 purchase of DirecTV helped AT&T to offer both wireless and TV nationally (Uverse IPTV was limited to AT&T's 21-state fixed line footprint). But, it also enabled the company to launch its first live OTT streaming service DirecTV Now (later renamed AT&T TV Now) in 2016.
- Then in 2018, AT&T's media ambitions really began with the purchase of Time Warner, giving AT&T a large library of content, which could help differentiate streaming service offerings.
- In 2021, AT&T decided to simplify its focus to 5G and fiber connectivity. So, the company started divesting a variety of non-core assets.

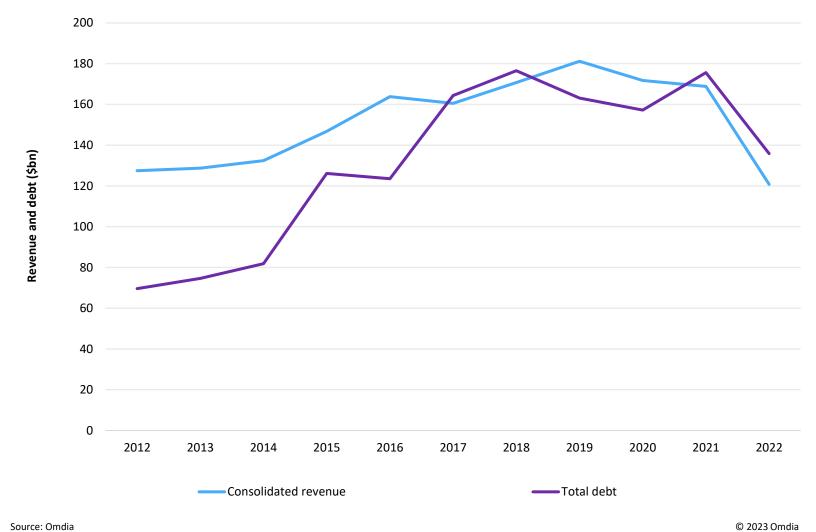




Financial results – Total debt

- The acquisitions AT&T made over the past decade added a lot to the company's debt, particularly the Time Warner acquisition in 2018.
- In order to make investments in growing 5G and fiber, AT&T needed to reduce its debt. With 5G, its rivals are making better progress with their network deployments.
- Divesting the series of non-core assets was a way for AT&T to reduce its debt and free up some cash for vital investments in the future of its streamlined business.
- The WarnerMedia spinoff helped AT&T lower its debt by a good chunk in 2022, with AT&T's total debt declining from \$175.6bn at the end of 2021 to \$135.9bn at the end of 2022. However, AT&T's debt is still high, and the company continues working to reduce it.

AT&T consolidated revenue and debt, 2012-22







Operational results

Digital services' enablers	2021	2022	2022 vs. 2021
Mobile subscriptions – 4G and 5G (000s)	197,985	217,397	9.8%
Mobile subscriptions – 4G (000s)	181,485	182,397	0.5%
Mobile subscriptions – 5G (000s)	16,500	35,000	112.1%
Ultra-broadband subscriptions – FTTH (000s)	5,992	7,215	20.4%
OTT video subscriptions – HBO Max* (000s)	13,910	0	-100.0%
Connected devices (000s)	95,116	107,478	13.0%
Connected vehicle subscriptions (000s)	50,200	60,180	19.9%
Notes: *Domestic retail. Source: Omdia and AT&T			© 2023 Omdia

- AT&T's fiber broadband connections are growing at a stronger rate YoY
 than its 4G and 5G mobile connections. Fiber is the foundation of both
 AT&T's fiber broadband and mobile networks, and it is one of AT&T's key
 focus areas (along with 5G).
- AT&T's 5G subscriptions are the fastest growing among the services noted here, at a rate of 112% YoY to the end of 2022.
- Most of AT&T's IoT subscriptions are still 4G, but the adoption rate of 5G devices by new and existing customers is strong, propelling growth in 5G.
 In the future, 5G will connect a vast array of IoT devices including sensors, devices, and autonomous things.
- Connected cars are the largest contributor to AT&T's connected devices category. At the end of 2022, connected cars accounted for 56% of connected devices. AT&T's connected cars segment consistently grows faster than the overall connected devices/IoT segment.
- AT&T's February 2022 shutdown of its 3G WCDMA network caused sharp declines in connected devices in 1Q22. This slowed down the overall annual growth, but the segment still grew 13% YoY.
- The merger of WarnerMedia with Discovery and the subsequent spinoff took the HBO Max OTT streaming service with it. AT&T no longer has any OTT subscriptions.

Appendix



Appendix

Methodology

This report draws on publicly available data about innovation at AT&T, media and industry reporting, and Omdia's data and analysis.

Further reading

<u>Digital Consumer Operator Strategy Benchmark – 2H22</u> (February 2023)

<u>US: Service Provider Market Report</u> (December 2022)

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Appendix

Omdia Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Omdia's consulting team may be able to help you. For more information about Omdia's consulting capabilities, please contact us directly at <u>consulting@omdia.com</u>.

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