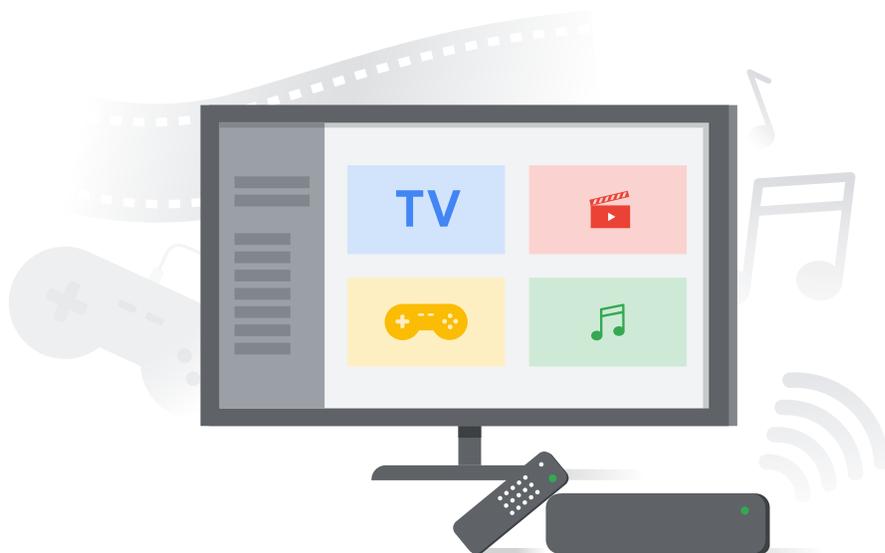


The Next-Generation Telco Bundle

A snapshot of industry perspectives at the dawn of the new decade



Executive summary

The global telecommunications industry is at a point of major transformation. In nearly every region, market changes and developments are leading telecommunications companies (aka “telcos,” which include traditional cable operators, satellite, wireless, and internet service providers) to reexamine their business models and investments. As we enter the new decade, telco offerings are under significant scrutiny from both consumers and investors. Although demand for connectivity has never been stronger, competition in TV and video has never been more intense.

Looking forward, many telco executives believe the industry is entering a challenging period of change and disruption. Traditional pay-TV subscriptions are expected to continue declining, as consumers migrate to streaming services and direct-to-consumer (DTC) offerings. At the same time, margins for many legacy products and services are decreasing and average revenue per user (ARPU) challenges are mounting. How are telcos responding and where do they go from here?

To retain existing subscribers and attract new customers, many telcos are doubling down on connectivity as their primary value proposition, while continuing to invest in TV and video as a secondary offering. Executives believe that TV and video will continue to play an important role in the bundle, helping to attract and retain subscribers to connectivity services, creating packaging and bundling opportunities, and helping to differentiate telco offerings. But many telcos are looking deeply at how their services are sourced, packaged, and delivered to their subscribers. Evaluating video is just the beginning of the telco evolution: the ability to understand and maximize relationships with consumers—by bundling together other complementary services consumers value—is going to be essential to staying competitive.

Research Methodology

To learn more about the current and future state of the market and how market changes are informing telco strategies, Google worked with [MTM](#) to conduct long-form interviews with 25 senior executives from top telcos around the world. The interviews were completed between August and October 2019 and focused heavily on leading telcos in the United States and Europe, with additional feedback collected from telcos in Latin America and Asia Pacific for a truly global perspective.

Going forward, telcos are exploring new ways to attract and retain subscribers. Their next-generation bundles may be complemented with new advanced TV and video offerings, smart home automation services, streaming games, and more. Across each customer touch point, advertising also offers a revenue stream that leverages the unique relationship telcos have with their subscribers, and provides telcos with another pathway to improve their ARPU.

This report summarizes the findings from 25 research interviews with telco thought leaders, representing a snapshot of current challenges and future strategies from an industry in transition as they move into an exciting new era.



Telco segmentation

The international telecommunications industry is made up of a diverse group of players, which can be segmented by the markets they operate in and the number of customers they serve.

This ranges from the United States, which has the world's largest and wealthiest telco market with a unique scale of tens of millions of subscribers in some cases, to large multi-territory telcos in regions like Europe and South America, to single-country national players that have large footprints in their specific markets.

Below, we've segmented telco companies into five groups, with our research focusing primarily on those in the top four categories.

1. Major US telcos	The largest telcos globally, operating in the wealthiest market in the world. Often tens of millions of subscribers.
2. Multi-territory telcos	Operate diverse portfolios across very different multi-territory markets. Most offer both fixed and mobile services and are working to standardize, but strategies vary by market.
3. Major telcos in large markets	Large-scale single-territory telcos. The majority are legacy incumbents with >10m customers.
4. Major telcos in small markets	Smaller-scale, single-territory telcos. The majority are legacy incumbents with <10m customers.
5. Smaller telcos	A wide range of smaller telcos, such as local cablecos, small mobile telcos and MVNOs (Mobile Virtual Network Operators).

We've separated major US telcos (segment 1) from other major telcos in large markets (segment 3) largely because of their difference in scale. Most of the major players in the US operate in a significantly larger market than any other telco, and this scale allows them to pursue strategies that telcos in segments 3 and 4 may not be able to pursue as easily, but which may be viable for multi-territory telcos (segment 2).

State of the telco market and drivers of change

Historically, many telcos started their businesses by offering telephony services. Next came television services, with an array of satellite and fixed pay-TV cable operators forming the true telecommunications industry. It was the rise of broadband internet, beginning roughly 20 years ago, that kicked the telco industry into overdrive. Broadband has allowed telco companies to create “triple play” and “quadruple play” bundles, in which multiple products and services are packaged together and offered to consumers with incentives to increase adoption. This includes bundles of all permutations of product offerings—fixed line and mobile telephony, television, and both fixed and wireless internet services.

Like many other industries, telecommunications is undergoing its own digital transformation. With broadband becoming more readily available and cheaper, and with devices becoming more powerful and prolific every year, the network effect means that more can be accomplished in and out of the home at both the consumer and enterprise level.

Connectivity’s crucial value

Enter the 2020s, a period with more advanced technology and new opportunities for telcos, but more competition too. Now that Internet Protocol Television (IPTV; TV sent via the internet) and new connected TV digital devices have joined over-the-air, cable, and satellite as a way to reach the consumer, broadband connectivity is more important than ever, and there are more opportunities for any telco that can offer it.

As one executive we interviewed at a US telco put it: “The cable industry of 15 years ago looks very different today. Previously, the primary business focus was traditional TV with big margins and strong subscriber growth. Video was the core of the offering, with secondary businesses like broadband and voice of internet protocol (VoIP) services. Today, broadband is the foundation for business growth. Reliable broadband access is a home necessity. This is a huge shift, altering the dynamics of the pay-TV business.”

With so many companies trying to gain share, there's a great deal of competition among telcos. However, because most people in the developed world have already adopted broadband, growth is slowing. At the same time, mobile has also become important. According to [Statista](#), in 2019, more than half of all internet traffic went through mobile channels. Mobile's share will continue to rise.

To avoid being left behind, many telcos have merged both fixed and mobile services to better cement their place in their respective territories, with a growing focus on developing more diverse portfolios of add-on products and services. For instance, in 2015 BT bought the UK's largest mobile phone operator, EE. And in 2018, Spectrum launched Spectrum Mobile and in 2019 Altice launched Altice Mobile.

. . . TV and video remain important too

Telco internet providers began to seriously invest in video content back in the early 2000s. For many telcos, TV and video services offered a high-margin revenue and proved to be a powerful marketing tool for selling connectivity services. For example, France Telecom began offering MagLigne TV in 2003, AT&T started offering AT&T U-verse in 2006, and Claro started offering ClaroTV in 2008.

The rise of alternative sources for video services and the increased price for content rights over the past decade has had a lot to do with the changing face of telcos. Telco executives emphasized the importance of two key trends disrupting the industry:

1. The proliferation of direct-to-consumer (DTC) services. Whether it's large services like Netflix or more niche offerings, telco's legacy video offerings face growing competition for both subscribers and content. Many in the industry expect to see more instances of bundling (aggregating multiple sources of owned and operated content at a lower price point), a sign that new direct-to-consumer (DTC) and over-the-top (OTT) services are becoming more competitive with cable operators and other virtual multichannel video programming distributors (vMVPDs).

"The biggest change in the market will be the new DTC services." —VP TV Strategy, EU telco

"The proliferation of DTC services is going to be a trainwreck ... but I think it's going to oddly make the traditional TV distribution model [of big bundles] seem attractive in retrospect."

—Head of Advertising Sales, US telco

2. The rapid growth and development of new video aggregation platforms. There's a variety of new video aggregation services and platforms, such as new vMVPDs, that have entered the TV market. These include Roku, Amazon, Apple, and Samsung Plus. (In some cases, as with Amazon, Apple, and Roku, the aggregators are also programmers with their own channel and exclusive content.) Telco executives believe they will have to fight hard to maintain their central role in consumer homes due to growing competition from these new aggregators.

“Connected TV platforms and new streaming aggregators have gained scale rapidly and are rolling out new offerings. They’ve become very important in the market, bypassing MVPDs and enabling all kinds of new services.” –Executive, US telco

“The big question is who will be the winning aggregation platform. A lot will depend on who will deliver the most value and best experiences.” –SVP, US telco

Facing the challenges ahead

After nearly two decades of steady growth, most major markets have matured. Growth is now being driven primarily by mobile subscriptions in emerging markets and demand for higher-speed data services and faster broadband in mature markets, driven in part by the demand for streaming video.

“We’ve seen rapid consumer adoption of mobile phones and higher mobile data plans across the [South East Asia] region . . . the on-the-go video apps have really flourished as a result.”

–Executive, APAC telco

Most major telcos are committed to delivering and expanding their TV and video offerings to remain competitive, but they’re also looking at new options in the face of continued disruption ahead. As a part of this, many telcos are deciding whether they should build, buy, or partner for their future TV and video offerings.



How are these trends impacting the telco industry? Executives interviewed during our research emphasized four major challenges:



Fragmenting TV and video markets

It continues to be harder to guarantee a large audience will watch a particular program as people cut the cord on traditional TV and adopt new subscription video on-demand (SVOD) or OTT video services.

“There is still a lot of fragmentation in Smart TVs and streaming devices which helps the case for set-top-boxes (STBs). In the markets where we are STB-dependent, we will eventually have to move towards app-based solutions that can be integrated with third-party devices.” —CEO TV & Video, Global telco



Subscriber losses and difficulty growing ARPUs

Cord-cutting behavior continues to shrink audiences for traditional video products. It’s also difficult to grow ARPUs among existing audiences as competition increases and consumers only have so much income to spend on video.

“Cord cutting isn’t slowing down—it’s an ongoing, steady trend, and appears to be accelerating. It’s very hard to be competitive when low-cost OTT offerings proliferate.” —Executive, US telco



Increased content costs and falling margins

The costs to license premium content continue to rise with competition, as do other costs.

“We are having to deal with content costs going up 5%–15% a year—that’s not a business model we want as it is not going to be sustainable for long.” —SVP of Product, US telco



High levels of capital investment to support new infrastructure (i.e. fiber, 5G)

While new technology creates new opportunities, it can also require costly capital investments to implement.

“We continue to have really big investment challenges—we’re still investing a lot in fibre and now we also have 5G to worry about.” —Strategy Director, EU telco

Company and market factors

Telco executives also highlighted a wide range of factors influencing their TV and video strategies, including internal company capabilities and exogenous market factors:

Company specific factors	Nature of connectivity portfolio	Telcos with significant fixed-line connectivity portfolios are likely to invest more in TV and video services to support their fixed-line business.
	Scale	Larger telcos are better positioned to invest and generate return from TV and video services as they can amortize the cost against larger subscriber base.
	Technology platform readiness	Telcos with more advanced technology platforms are likely to introduce new features and functionalities to their TV and video services more often.
External market factors	Market structure and level of competition	Telcos in highly competitive markets are likely to invest more in TV and video offerings as a way to differentiate.
	Customer value	Telcos in higher ARPU markets likely to invest in more in TV and video offerings to reduce churn.
	Structure and size of content supply market	Telcos in markets where TV and video content is more freely available (e.g. limited exclusivity, lower cost) can offer more diverse TV and video services.

How are telcos approaching these challenges? Let's look at some of the emerging strategies telco companies are using to react to the evolving market and maintain competitiveness.

Emerging telco strategies and opportunities: video, connectivity, and beyond

Even with new challenges facing the telco industry, there are a number of emerging strategies and opportunities that weren't previously possible. To continue to grow their businesses today and thrive in the future, telco companies are moving forward with strategies in two primary areas depending on their size and market position—growing the core and expanding beyond the core.



Growing the core: Growing the core means strengthening the business areas that telcos have long been invested in—connectivity, video, and a combination of bundles across these services—so that they can grow and enhance these offerings with new technology. Most telcos aren't looking to exit these existing business areas, but to grow them and find new competitive edges within them.



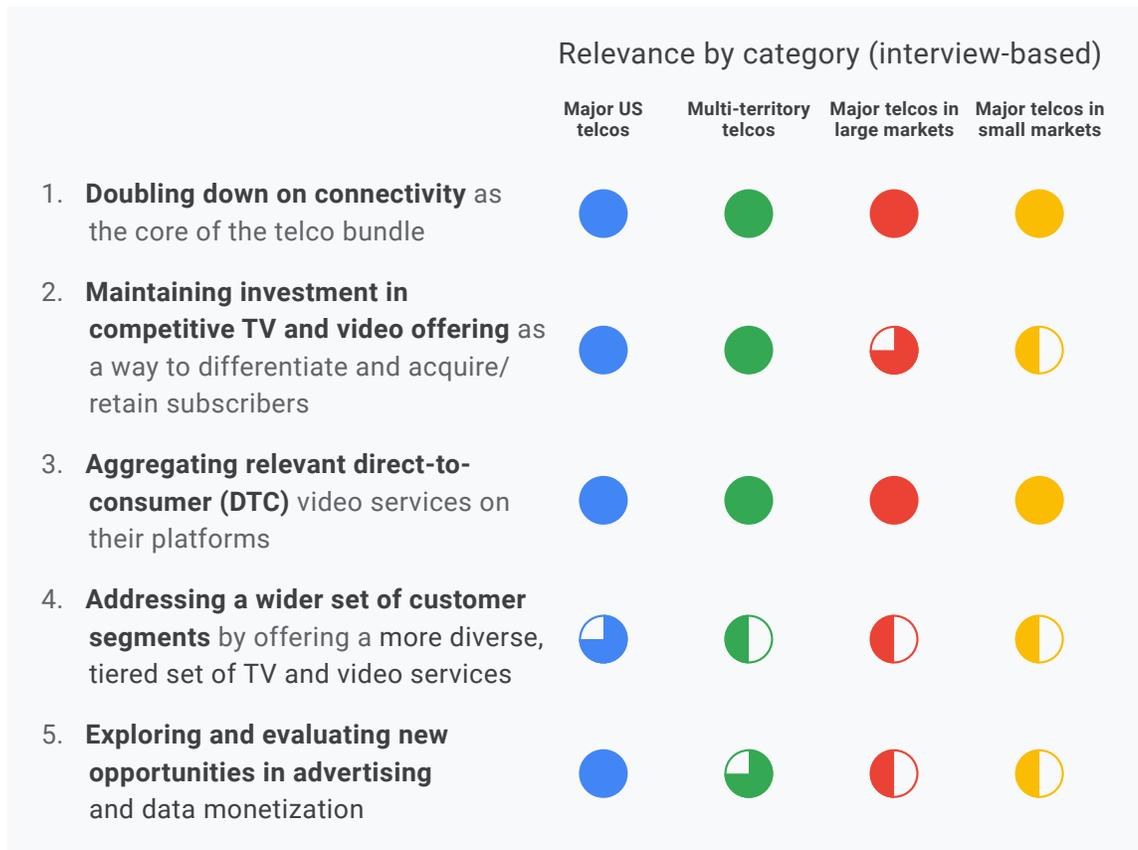
Expanding beyond the core: Many telcos are also focused on developing more diverse portfolios of add-on products and services to create their next-generation bundles. These add-ons might include smart home automation and other internet of things (IoT) innovations, streaming games, and new connected consumer devices.

Next, let's spend a little time digging into each of these strategies and approaches.



Growing the core: continuing to grow core connectivity and video services

When it comes to growing the core, telcos have identified a number of priorities across connectivity and video. In many cases, US and multi-territory telcos are leading the charge across these connectivity and video strategies, with other telco segments' investments varying depending on their size, market, and capital.



Doubling down on connectivity

Telcos of all sizes continue to see connectivity, both fixed and mobile, as a primary value proposition—as a table-stakes offering not up for debate. They know that connectivity's importance will continue to grow, as subscribers' needs for data and network speed continue to rise with the prolific growth of internet-enabled content and the exponential number of devices used to consume it.

Reliable broadband access has become a necessity—and if your product is a necessity subscribers are less inclined to leave. Even as traditional television subscriptions decline, people retain internet access. In addition to accessing the web, broadband (i) unlocks the ability to access all forms of content, including streaming TV content, and (ii) powers all existing and future forms of smart connected devices, including smart home devices, security systems, and voice assistants. Connectivity has become one of the most important consumer needs today.

Today, more than [82% of US households](#) have broadband internet access. In the UK, [90% of households have internet access](#) and 98% of those households have a broadband connection. While there is some room for growth in underpenetrated markets and newer emerging international markets, the growth potential really lies in new technologies like 5G and new products and services that rely on connectivity.

In the near future, 5G will represent a tremendous opportunity for the connectivity industry. According to [GSMA's 2019 5G study](#), in just five years 1.4 billion users will be connected to 5G across the world. Not only does 5G present new opportunities for telcos, it also promises to change the consumer experience via high-speed, high-data, and low-latency networks that will accommodate demand for fast mobile broadband and enable people to access and stream more content from anywhere.

Maintaining investment in TV and video content

As essential as connectivity is, it's not that exciting if it can't be put to use. And that's where TV and video come in. Large telcos see content as an integral and essential offering, and many will continue to invest in it. Smaller telcos are weighing their options for build versus partner video strategies.

When we asked telcos how important TV and video is to their business during our interviews, the average response was 4.5 out of 5—TV and video remain extremely important to their strategies.¹ In many cases, TV and video play a large role in the value proposition of telcos—it has helped them stand out among competitors and keeps current customers coming back for more. Many of the larger telcos invest in exclusive premium video content as a way to differentiate their aggregated offerings. Exclusive premium content makes a telco's offerings "stickier," or better at keeping subscribers.



When we asked telcos how important TV and video is to their business during our interviews, the average response was 4.5 out of 5—TV and video remain extremely important to their strategies.¹

¹ Source: MTM interview program: How important is TV and video content to your company today? (1 = Not at all important, 5 = Extremely important; N = 14)

TV and video services have been a powerful marketing tool for selling connectivity services, for reducing churn, and for differentiating telco businesses. As the head of TV and entertainment at an EU telco put it: “Customers who only have one service are much more likely to churn than those who have a triple-play bundle. TV is very important for reducing churn.” A VP of TV strategy, also at an EU telco, echoed those sentiments: “TV is a major differentiator. We are in a competitive market and all of the other cable and infrastructure companies have some kind of TV proposition.”

Telco TV and video services range widely depending on size and region. At the premium end are wealthier telcos in large markets, which differentiate their offerings with exclusive content:

“Our TV strategy is built on three pillars: aggregating all relevant content sources via partnerships, differentiating with our own content and exclusive sports, and providing the best user experience.” –VP, TV Strategy, EU telco.

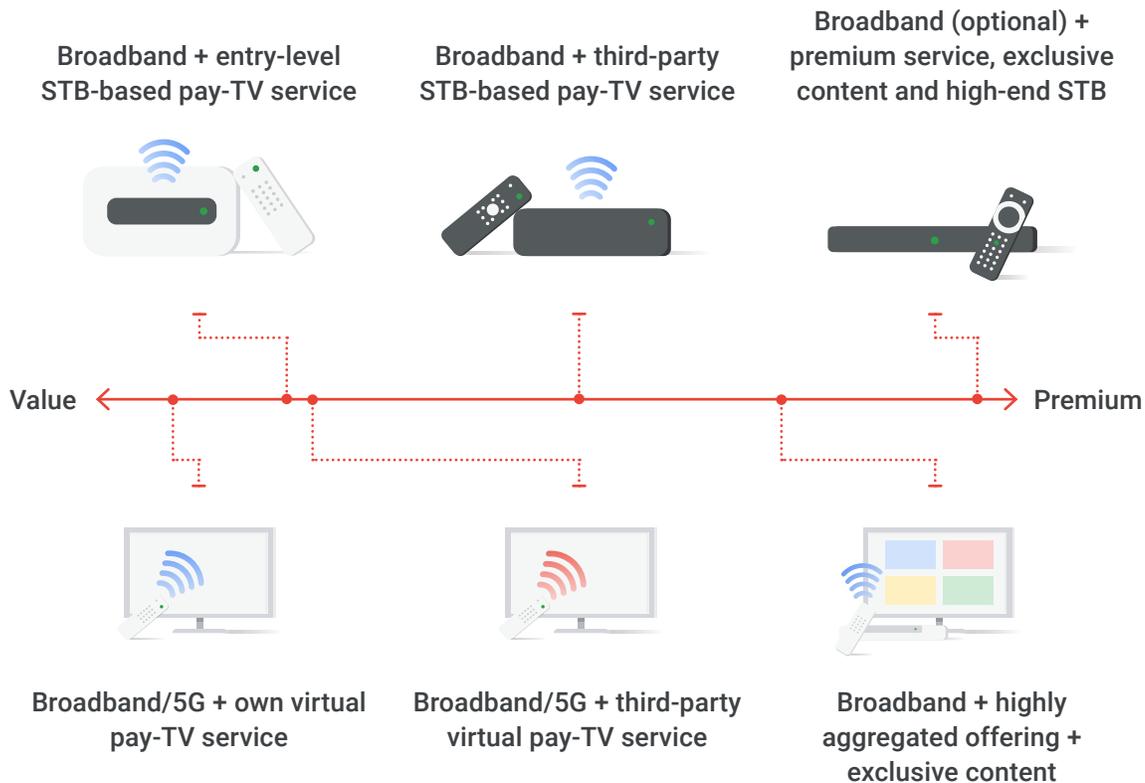
Telcos of all sizes are invested in integrating new digital technology into their offerings through build, buy, or partner strategies. This may entail building their own internet-enabled STBs or virtual multichannel video programming distribution (vMVPD) OTT apps, acquiring an existing OTT company, or integrating with third-party set-top boxes or existing OTT offerings. These new digital solutions allow telco companies to offer their video content experience across traditional TVs, connected TV devices, mobile phones, tablets and computers, so that subscribers can watch anytime and anywhere.

“By launching a very distinct mobile-first OTT service, we were able to expand our addressable segments beyond the pay-TV household market, selling to new customers who otherwise would not get pay-TV and avoiding cannibalisation.” –Executive, APAC telco.

While smaller telcos are less likely to prioritize original or exclusive programming, many have successfully put together high-quality TV and video services by either leveraging small, agile teams to build their own products or by leaning on suppliers and partners. From a device standpoint, creating their own custom STBs can be a risky proposition, requiring lots of research and development, but new lower-priced IPTV and streaming technology has created more opportunities for these smaller telcos. They’re now able to create their own OTT video streaming apps, aggregate new digital services and content rather than only focusing on traditional pay-TV content packages, and give customers easy access to their service thanks to digital technology.

“We’ve launched a separate service powered by Android TV, which is less expensive and we can price it more flexibly...and because it’s an OTT service, it gives us optionality in the long term.” –Executive, APAC telco

Today, telco bundles tend to include a combination of connectivity and video, but variations have proliferated across different markets and types of telcos:



Telcos are working hard to adapt their video offerings to meet the changing needs of consumers

Telcos that are invested in maintaining their TV and video offerings have identified additional strategies to grow their business in this area: aggregating new direct-to-consumer video services on their platforms, addressing a wider set of customer segments with new tiered offerings, and exploring new monetization opportunities.

Aggregating direct-to-consumer services

Telcos realize that in a world of hundreds of streaming services and dozens of other ways to watch video content, that they have an essential role to play as an aggregator for the many DTC offerings.

While DTC offerings give consumers more choice, managing all those options has led to “subscriber fatigue.” According to [Magid’s Value: Friction 2020 report](#), 33% of internet users say managing video subscriptions is a problem, and 47% show interest in aggregating all paid video subscription services into a single interface.

Aggregating video content is likely to be a win-win, allowing telcos to expand their coverage while helping these video services potentially expand their reach and lower customer-acquisition costs. Here's how the CPO at a telco in APAC sees it:

"These new DTC services coming to market is exactly why aggregation strategy makes sense . . . there's a lot of fragmentation, which is a great opportunity for us to aggregate and curate various content sources." But why didn't they try it before? "We didn't have to do it a few years ago as we had all the content, but the market has changed."

Addressing a wider set of customers

As telcos continue to work hard to address their consumers' evolving desires, many are experimenting with tiered levels of service to reach a wider set of customers.

"The market is becoming highly bifurcated," says a director of video product at a US telco. "Going forward, about half of the population will be happy to pay for a traditional premium pay-TV experience; then you're going to have another half of the market who won't do that—that's where the new, cheaper services will play." It's analogous to a streaming service that has different prices based on whether or not its streams come with commercials.

Of course, it's important that customers understand the value in every level of service. The highest, most fully featured offering needs to justify its price through its user experience, content, content discovery, and possibly perks and additional bundled offerings. On the other end of the spectrum, some telcos are beginning to experiment with pared-down offerings by deploying lower-priced OTT streaming apps or skinny bundles to appeal to a new customer segment of cord cutters.

Exploring opportunities in advertising and monetization

Telcos must strike a balance between increasing costs (e.g., carriage fees) and subscription fees that will be bearable for their customers. Enter advertising, which provides another tool for telcos to grow without increasing the burden on consumers, who remain sensitive to costs. Advertising can be a strong and complementary revenue stream, because it leverages the unique relationship telcos have with subscribers, in- and out-of-home, and is a way to offset subscription and hardware fees to drive more value into a product bundle.

Telco companies own the relationship to the subscriber, which means they often hold the keys to make addressable advertising possible across screens and devices within their footprint.

Creating customer experiences where advertising can be incorporated, such as OTT aggregation apps or hardware device home screens, which enable access through authentication, can be powerful monetization tools.

For TV offerings in the US, and some other countries, content programmers have historically shared a portion of their ad inventory (typically two minutes per hour) with telco companies

as a part of their carriage agreements. This has enabled US telco companies to use data, the scale of TV, and their consumer relationships to build meaningful advertising businesses.

“Addressable TV advertising has been critical [to our business] and has enabled us to grow our ads business despite all other headwinds,” said the Head of Advertising at a US-based telco.

Despite this relatively new growth, traditional multicast TV environments and the older STBs they use aren't well equipped for addressable advertising, or the ability to serve more relevant ads to different households watching the same program. With the onset of digital technology, and as more telcos lean into building connected next-generation living room experiences like OTT streaming apps and aggregation offerings, addressable advertising opportunities will scale more quickly and open up new opportunities for operators.

Outside the US, most programmers do not share inventory with telco companies, though this is beginning to change, with some large telcos introducing inventory sharing agreements internationally.

“In [our market] and many other markets apart from the US, telcos do not own linear TV ad inventory”
– Head of Advertising, EU Telco.

Many telcos see themselves as primarily subscription-supported service providers, though many also believe that there's still a major role they can play through addressable advertising.

“In almost every country we're seeing a downturn in TV ad spend . . . telcos can help turn that around with our data to provide targeted advertising, adding value and benefiting everyone involved,” said the VP of TV Strategy at an EU telco.

As addressable advertising opportunities continue to develop, there's an opportunity for telco companies in many regions to lean heavily into advertising as a revenue driver, utilizing industry standards, with internet-enabled devices, as a way to plug into the advertising ecosystem and scale their businesses with low-friction costs.



Expanding beyond the core: building the next-generation bundle with new products and services

The bundle has proven an effective strategy: when a package of services is delivered effectively, customers are more likely to be satisfied. And today advances in technology mean that there are new products and services that telco companies can build into their bundles that subscribers will see as additive. Call it the next-generation bundle.

Many telcos are pursuing this strategy, though it depends on their size and positioning:

Relevance by category (interview-based)

Major US telcos Multi-territory telcos Major telcos in large markets Major telcos in small markets

Expanding beyond the core with new services and products to build the next-generation bundle



As discussed above, connectivity will always be an important part of that package—it's an essential factor that every telco prioritizes. And video and television remain an integral part of their offering. Telcos now have the opportunity to provide services that will make them even more central to households. Many telcos have therefore converged on so-called quad-play offerings—adding in mobile service with the well-developed triple play of internet, TV, and phone. Many are also now focused on developing more diverse portfolios of add-on products and services powered by new technology to add to their next-generation bundles.

These add-ons might include smart home automation and other internet of things (IoT) innovations, streaming games, new connected consumer devices, and automated customer service.

Telco companies have long-standing experience in providing customer service, as they own the relationship with the end consumer. This makes them well-positioned to also manage the in-home needs of consumers. They have an opportunity to lead the thoughtful and connected home evolution. Technology has introduced a deluge of new gadgets, with their integration and opportunities for automation constantly improving. This presents an opening for larger telcos to provide a central location as well as the pipes for security and other IoT-powered innovations, both inside and outside the home.

Growing the Internet of Things (IoT)

Much of the necessary IoT integrations—in other words creating an automated system that connects computers, machine learning, consumers, and appliances—are still being built out. IoT is sometimes used synonymously with the smart home, though it can extend beyond this. Forward-thinking telcos are likely to take an iterative approach to see which technologies will help their particular customer base the most, and which make the most sense as a complement to their existing services.

As one Head of TV & Entertainment at an EU telco put it: **“What’s going to be the fifth product? Will it be IoT or 5G?”** Another said, **“Apart from our traditional services, the top priorities for us are IoT, the health sector, and blockchain opportunities around banking.”**

Telcos in many markets are focused on developing more diverse portfolios of add-on products and services, many of which relate to the IoT.



Clearly, telcos pursuing new opportunities will need to address a range of success factors. For example, many executives emphasized the importance of scale in successfully pursuing new opportunities. Larger telcos are generally better equipped to succeed in creating new products and services than smaller telcos, because they already have a larger subscriber footprint that is more likely to adopt their new offerings at scale.

Additionally, there are already specialized incumbent companies in market for some of the new products and services we’ve identified as telco bundle opportunities. Telcos have to decide whether they should build, buy, or partner when assessing whether to move forward, which will be dependent on each telco’s size and investment capabilities.

There are a growing range of new opportunities for telcos to diversify, leveraging connectivity and their customer relationships, and strategies will vary telco by telco, and by market.

Google solutions for telco companies

Google is well positioned to help telco companies move forward with the emerging opportunities and strategies our research uncovered. We've invested in solutions to help telcos grow their core business of connectivity and video, expand beyond their core business with new products and services to build a true next-generation bundle, and to enhance technology and operations.



Growing the core: As telcos continue to grow their core connectivity and video businesses, Google offers solutions that can enable telcos to distribute video offerings more broadly and monetize video content seamlessly across screens.



Expanding beyond the core: As telcos launch new products and services to create next-generation bundles that drive the next wave of business growth, they can expand their offerings through integrations with Google entertainment subscription services, devices, and platforms.



Enhancing technology and operations: By driving efficiency in technology and operations through Google solutions, telcos can enhance the customer experience through automation and augmentation across devices and channels.



Growing the core

To grow telcos' core businesses, Google offers solutions that can help enhance existing video and connectivity offerings. These include:

- **Distribute video content seamlessly with Android TV:** Take a unified platform approach with Android's customizable and interoperable operating system that can power video experience everywhere. With [Android TV's](#) operating system powering set-top boxes, telcos can create a more automated and engaging viewing experience for their subscribers. Android TV offers a fully customizable platform that can auto-launch your TV service, making it front and center on the platform. Android TV also offers direct integrations with [Google Assistant](#) for voice control and voice search, access to thousands of streaming apps from the [Google Play Store](#), and Chromecast built-in for casting photos, music, and more onto the big screen.
- **Monetize with Google Ad Manager:** As advertising becomes a larger opportunity for telcos, and as connectivity enables more digital video distribution and addressable advertising, Google Ad Manager's [advanced TV solutions](#) can help telcos monetize their connected footprint across screens, with seamless, personalized, and measurable ad experiences everywhere viewers are watching. Solutions like [Dynamic Ad Insertion](#) enable telcos to monetize their OTT content across screens at scale and optimize for latency reduction, [Inventory Sharing](#) makes it possible for telcos to share inventory based on carriage agreements with their programming partners, and [Smarter Ad Breaks](#) allows for personalized commercial breaks while maximizing revenue across reservation and programmatic inventory. Google Ad Manager also has integrations with other Google solutions, like BigQuery, Google Analytics 360, and Android TV. For example, Ad Manager data can be integrated into [BigQuery](#) for more detailed analysis and visualization. [Google Analytics 360](#) allows telco to create aggregated and anonymous segments based on user behavior that can then be exported into [Ad Manager Audience Solutions](#). And Ad Manager can also be integrated with Android TV to provide turnkey and flexible monetization solutions for any telcos that use the Android TV platform.



Expanding beyond the core

Expand beyond the core business by launching compelling new products and services that create the next-generation bundle and drive the next wave of businesses. Easily integrate offerings into a combination of Google entertainment subscription services, devices, and platforms to create a customized bundle.

- **Drive ARPU through complementary entertainment subscription services:** Bundling paid subscription services into core services can drive greater value for consumers. Google's subscription services like YouTube Premium or [YouTube Music](#) can be bundled with existing offerings and combined on a single bill in a way that allows telcos to continue to own the consumer relationship.
- **Integrate services with Google hardware to create a thoughtful home:** As the thoughtful home becomes a reality, there's an opportunity to weave hardware, software, our homes, and our lives into a continuous, coherent, natural and intuitive experience. Integrating core telco services into Google hardware can make them seamlessly available across devices. These thoughtful home solutions could allow partners to integrate offerings through connected devices that can make additional services available through products such as [Google Nest](#) speakers and displays. For example, if a subscriber has a Nest Mini in their living room or a Nest Hub Max in their kitchen, a simple integration could allow them to make voice calls or easily control TV services for a truly connected experience.
- **Increase scale with Google's enterprise offerings:** Google's approach to enterprise reselling enables telco companies to bring the power and scale of Google infrastructure to their own solutions by using [Google Cloud](#) and [gSuite](#), which include compelling productivity solutions like Gmail, Calendar, and Drive.
- **Create a stickier connectivity offering by adding gaming to the bundle:** We're rapidly heading towards a future of gaming that will be both mobile and cross-platform, especially in a 5G-enabled world. Telcos are uniquely positioned to power the next gaming wave across the entire gaming journey—positioning mobile gaming on 5G with Google Play Points and PlayPass, capitalizing on the esports craze with Play and Youtube, and in creating truly next-gen experiences with Stadia and YouTube.



Enhancing technology and operations

In addition to the above Google solutions that align with telco opportunities and strategies of growing (and expanding beyond) the core, Google takes it a step further to help telcos drive efficiency and improve subscriber engagement by enhancing technology and operations across devices and channels.

- **Automate call centers:** Improve call centers with Google Cloud's [Contact Center AI](#), utilizing the best of Google AI to improve customer experiences, as well as operational efficiency. The result? More personalized, intuitive customer care from the first "Hello."
- **Enable more efficient networks:** Google Cloud's simplified networking infrastructure and powerful compute engine enables workflow automation; this provides more agility when moving on-premise workloads to the cloud. With the application of our AI/ML, Google Cloud can help deliver significant improvements in network operational and capital expenditures, as well as overall network performance. Solutions include [Tensorflow](#), an open-source ML platform that can help analyze subscriber data to better personalize services and customer touch points, and [Google Cloud's Apigee](#), the cross-cloud API management platform to power connected experiences, operational efficiencies, and actionable insights.
- **Launch customer self-care and service tools:** Integrate customer care solutions with the [Google Assistant](#) to automate the end-user experience when someone needs help with the telco services being provided, including items focused on cost reduction and revenue upsell opportunities.
- **Digitize and bring telco services to life with artificial intelligence:** The Google Assistant can help digitize media content and also help connect customers to services wherever they are. Solutions like [Google's Chatbase](#) can help build AI-powered conversational experiences for customers.

Finally, as 5G technology becomes a reality, our goal is to partner with telco companies to help bring high-quality 5G connectivity to as many users as possible as fast as possible. 5G will power solutions across all areas covered above—from helping telcos grow their core with 5G connectivity device and plan upgrades, to expanding with new experiences in the smart home, gaming, and more, to enhancing technology and operations across every part of a telco's business. For example, Google is enabling foundational support for 5G in [Android Q](#), via 5G iconography, mobile data plans, and developer APIs which make it easier to indicate 5G to users, surface plan upgrades, and create new and improved 5G use cases. 5G will unlock a variety of opportunities for telcos to power their business into the future.



THE NEXT-GENERATION TELCO BUNDLE

All of these areas present opportunities for telcos to continue to grow their businesses. Combining Google technology with their unique assets will enhance the consumer experience and help sustain long-term growth in an ever-changing industry. Whether it's growing the core businesses of connectivity and video, expanding beyond the core with new products and services in a next-generation bundle, or enhancing technology and operations, Google has the ability to work with telcos worldwide to innovate and transform the industry together, delivering the best consumer experience everywhere and driving growth throughout the entire telco ecosystem.