

# Building profitable video platforms

Uncovering how operators are building better user experience and revenue-generating features by maximising technology agility and time-to-market

2024

In partnership with  
Irdeto



**Caretta**  
Research



# Executive summary

Pay TV, telco and streaming operators are responding to tough market conditions by targeting their technology investment on growing operational scale, efficiency and monetisation.

Delivering new features for better user experience, serving more content to more devices and markets, and growing advertising are all high priorities as operators face the challenge of sustaining subscriber numbers and revenue while competing with the major global streamers and device platforms.

The way operators are responding is revealed in a major new industry research initiative by Caretta Research, based on a survey of technology leaders at international operators, covering all global regions and market sizes.

The aim is increasingly to have a single, flexible technology platform able to serve all content, devices and customer segments, with a sharp focus on agility and fast time to market. Platforms are juggling the need to integrate and aggregate more content services, reach more unmanaged devices, and expand into new markets, while keeping tight control over costs. This is driving a need for better data and analytics, new monetisation models and effective security.

But few are doing it in house now. Internal development teams are mostly small, and the focus is on buying key building blocks from vendors, and focusing in-house effort on customising, integrating and deploying these rapidly to deliver maximum business value.



## Key points

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### → 01

In a tough market, operators are more focused than ever on revenue: reducing churn, growing ARPU, and building new income streams including advertising, are the top business challenges, and these are directly impacting technology strategy.

### → 02

Scaling up to reach more devices, and OTT-only services delivered to unmanaged smart TVs are top priorities for many, but they face multiple business and technology barriers on the way.

### → 03

Video platforms are constantly being updated, with user experience driving the list of investment priorities including analytics, frontend UI and more robust video infrastructure.

### → 04

Super-aggregation remains work in progress with little more than half of platforms currently integrating third-party streaming apps into their offer alongside more traditional TV channels and VOD.

### → 05

Directly integrating third-party app metadata is an unsolved integration challenge for most platforms, but is now high on the list of priorities to solve.

### → 06

Video service providers are sharply focused on operational efficiency, with 80% of them now using a single backend platform to reach all devices and markets.

### → 07

Operators are going beyond video, and offering other “digital lifestyle” services such as smart home, fitness and gaming, adding to their integration challenges.

### → 08

Many operators have limited engineering teams and only 12% opt for a full “build it yourself” strategy.

### → 09

As a result, most pay TV, telco and streaming providers rely on buying technology building blocks from trusted vendors, and then customising and integrating them in-house to meet their commercial objectives.



# A perfect storm

## Operators say revenue is their #1 challenge

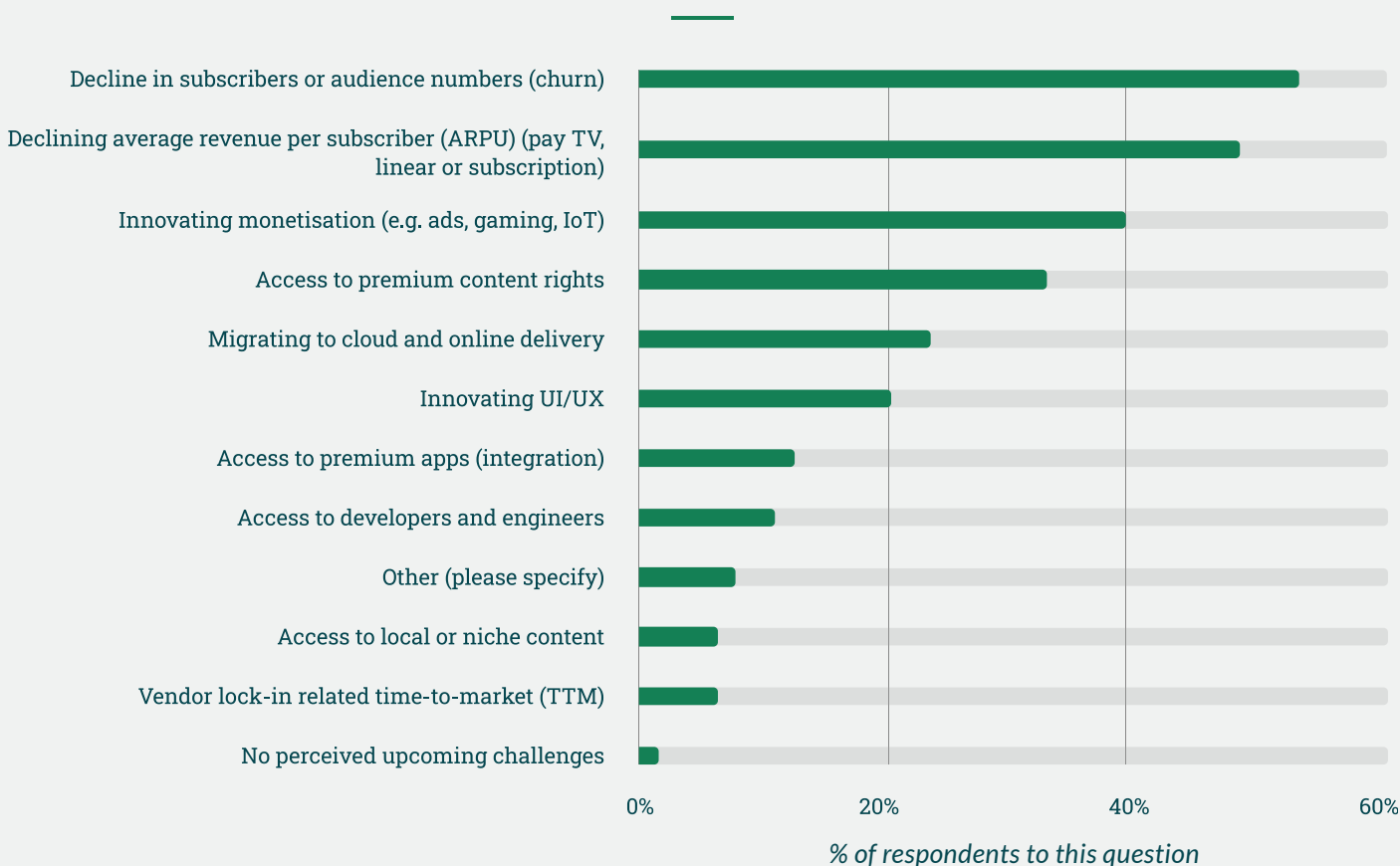
Pay TV and telco operators and broadcasters are facing unprecedented competition from direct-to-consumer streamers and smart TV and device makers in the hyper-competitive market for consumer video spending.

After years of investing in building streaming video platforms and market presence, the focus in 2024 and over the coming years is clearly turning to making them pay.

More than half of respondents say churn, leading to declining numbers of subscribers, is their company's biggest challenge, closely followed by declining average revenue per subscriber (ARPU).

The financial pressures continue, with almost 40% of respondents highlighting the challenge of diversifying their revenue – for example from innovating advertising models, to adding new services for things like gaming and connected IoT devices.

## What are the biggest challenges facing your business in the next five years?



Source: Caretta Research



## Technology embraces cloud and better UX

Technology-led challenges impact a sizable portion of operators. Migrating to cloud and online delivery is a priority for a quarter of respondents – reflecting the transition from traditional pay TV infrastructure and managed set-top boxes to the new reality of OTT delivery to a panoply of unmanaged devices.

Just over 20% see user interface (UI) and user experience (UX) innovation as a major challenge – as they strive to compete with deep-pocketed global players that set the standard for consumer expectations of how a video service should work.

Accessing enough developers and engineers and managing the integration of third-party premium streaming apps (more on this later), also feature on the list of things to tackle.

### King Content's crown is a crowd pleaser

When consumers have multiple ways to access a similar range of international content and apps, video platform operators are paying closer attention to how unique and premium content – original production and sports – can help differentiate their service.

Over a third of operators taking part in our research cite access to premium content rights as one of their biggest challenges over the next five years.

As one pay TV operator in a relatively small European market puts it: “Content is our main differentiator. We've invested in locally-produced content and this has been very successful in driving new subscriptions.”

A telco in another European market has gained market share by focusing on bundling sports, in particular pay-per-view content to reach beyond the existing customer base: “Selling one-off game passes to view soccer matches has proven very popular.”

And in Asia, a large operator explains how it is continuing to invest in premium live sports rights as the reason that customers will stay with pay TV.

***“Content is king but pricing is how we stay competitive in the market. Our competition is with the premium app providers rather than other local players, as our customers are not switching to a competitor, but rather switching off pay TV in favour of OTT.”***

—  
Head of operations,  
pay TV operator, APAC



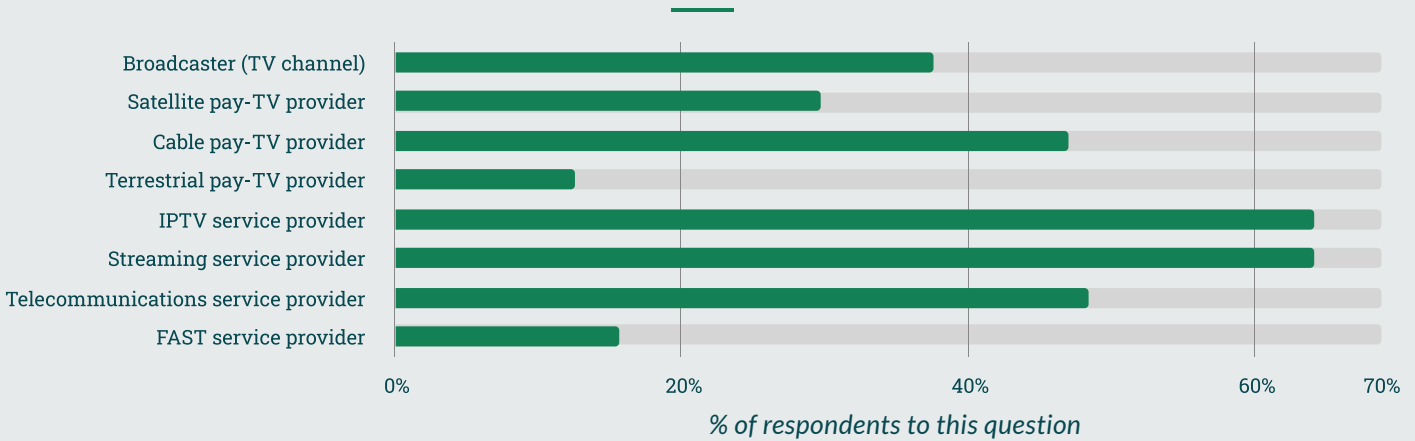
# Understanding the full breadth of the industry

The findings in this report are based on extensive research across the video entertainment industry by Caretta Research conducted in January and February 2024.

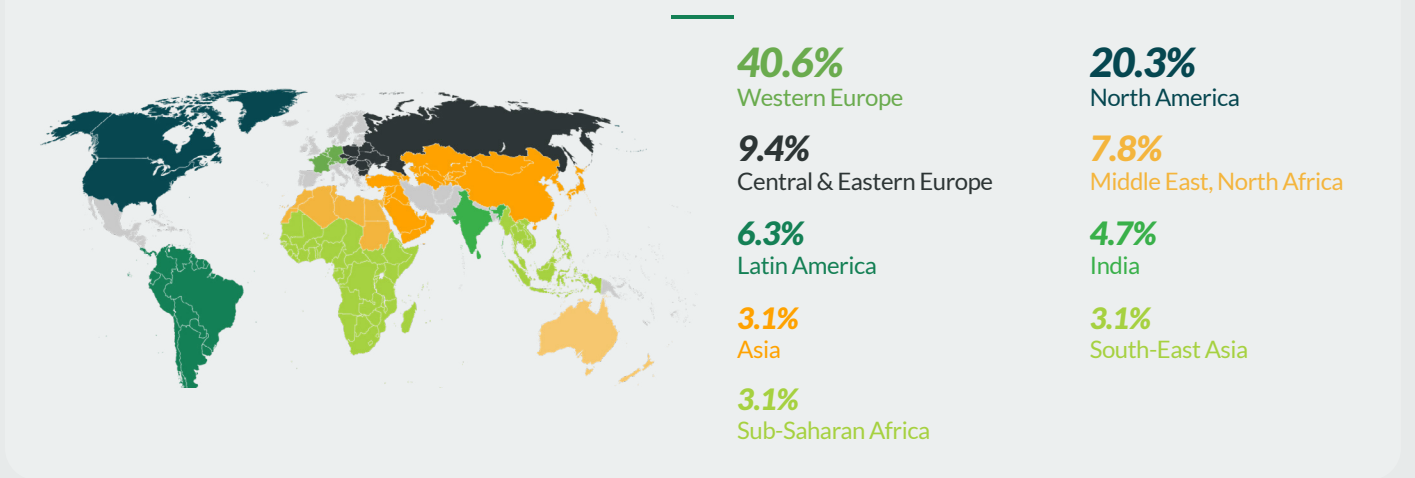
More than sixty operators, streamers and broadcasters in every global region were surveyed, spanning TV channel operators, pay TV and telco operators, standalone streamers and FAST channel providers.

In addition, direct 1:1 research interviews were conducted with a representative range of these operators to explore the business strategy driving their technology decisions in more depth.

## Video services operated by research respondents

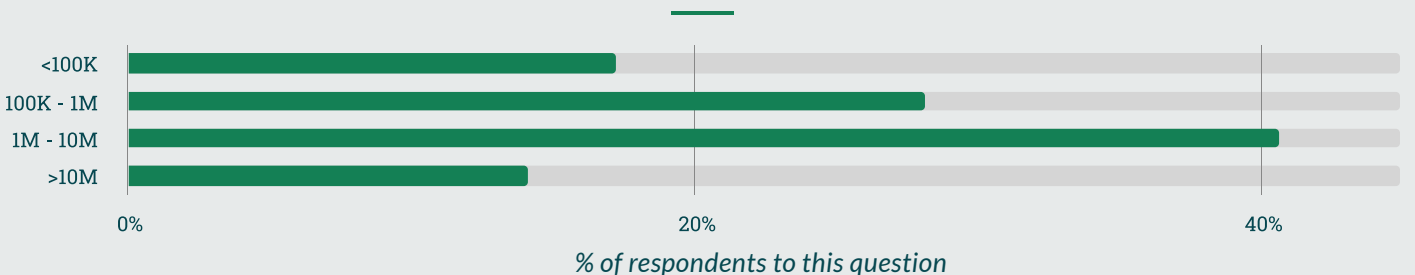


## Company HQ location by research respondents



The research spanned platforms and operators of all sizes, from those with fewer than 100,000 subscribers, through to the biggest providers with more than 10 million TV and video customers.

## How many pay-TV / video subscribers do you have?



Source of All Charts: Caretta Research





# Building a modern service

## Super-aggregation remains work-in-progress

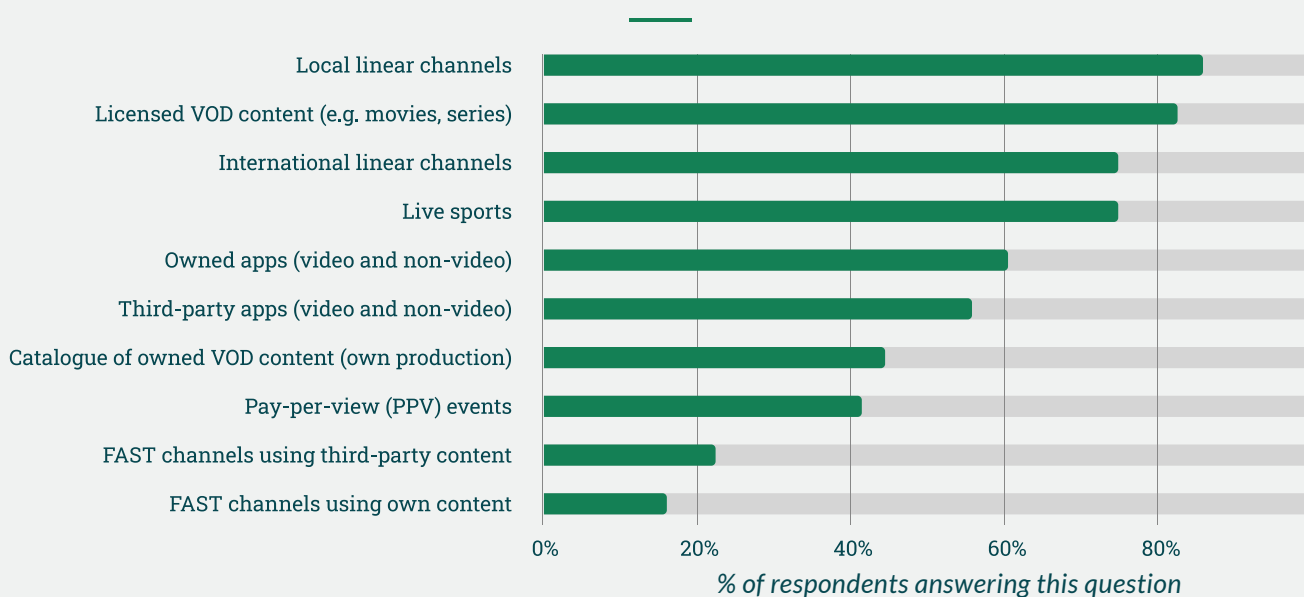
The focus for many platforms over recent years has been on aggregating content from a wide range of sources and adding a unified user experience, search and discovery on top.

Our research confirms that this is still not complete – with only just over half of all of our research respondents currently integrating third-party apps into their own service offering.

Meanwhile, more traditional pay TV content in the form of local and international linear channels and operator-licensed video-on-demand is found far more commonly in operators' services.

Newer flavours of content, such as FAST channels, are finding faster market adoption, now appearing in close to a quarter of services.

### Services included in research respondents' video offer



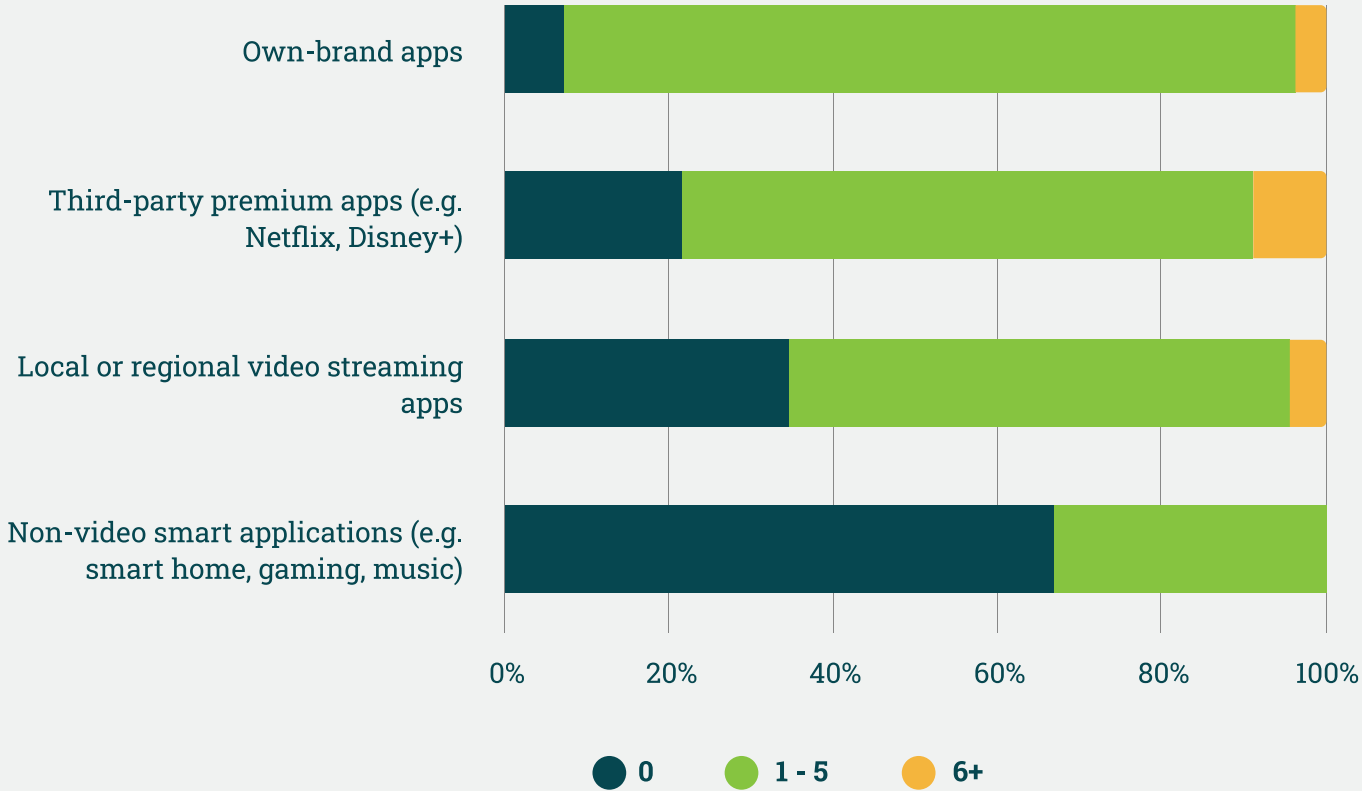
Source: Caretta Research



For those super-aggregator platforms that are pre-integrating third-party apps, it's a mix of local or regional streaming services, plus the international majors like Netflix, Prime Video and Disney+. Most are providing five or fewer integrated apps in any one category with only a handful of platforms aggregating more than five apps.

A diversification away from purely video apps to other services — like smart home, gaming, music and health and fitness apps — is also emerging as operators look to grow additional revenue streams from their video customers. A full third of operators that are pre-integrating third-party apps are now including these “digital lifestyle” services.

## How many applications on your video platform are pre-integrated



Source: Caretta Research





# Aggregating apps is still complex

For a fully aggregated service, third-party apps can be integrated at several levels:



## Billing integration

where the customer pays for the cost of the third-party app via their pay TV or telco bill – nearly two-thirds of aggregators use this approach.



## Single sign-on

where user credentials are shared from the operator's service to the third-party app – just under half of aggregators include this level of integration.

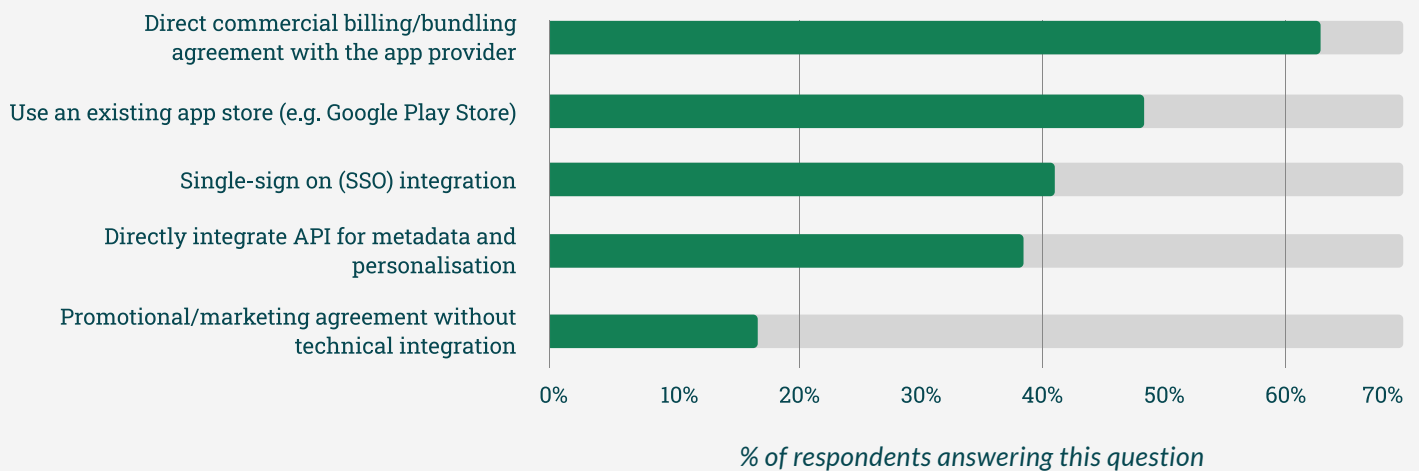


## Metadata integration

via an API, to expose the content catalogue of the third-party app to aid content search, discovery and recommendations – under-represented compared with other approaches (adopted by 39% of aggregators), and one of the most challenging aspects of the integration, despite its potential to transform user experience.

Meanwhile, nearly half of aggregators also rely on regular app store integration – particularly for platforms using Android TV Operator Tier. This provides a basic level of integration directly in the front end and provides a no-code level of integration, at the expense of the operator's control over the user experience.

## What is your general approach to integrating third-party apps into your platform



Source: Caretta Research



# The app integration challenge

For such a crucial aspect of building an aggregated content platform, operators identify numerous practical and technology hurdles in managing the integration of third-party apps.

Two problems stand out:

1

## Integrating third-party app metadata

into search and the frontend user experience, with a further challenge of accessing the data from the app providers.

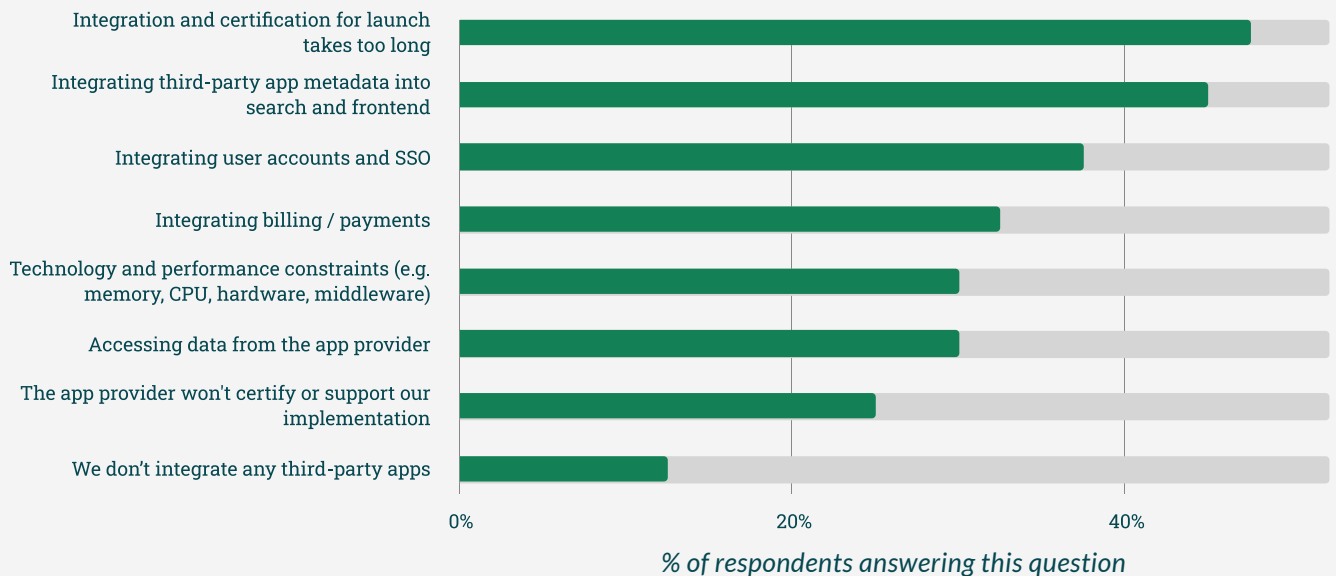
2

## The time it takes to complete integration

and obtain certification from the international streaming services before the aggregated service can launch. Some operators, particularly smaller ones, find they can't get support or certification from some app providers at all.



## What challenges do you experience when integrating premium apps?



Source: Caretta Research



# Scaling up

## Reaching more devices is crucial

Some operators are considering a “boxless” future, moving away from managed devices altogether and simply delivering content via their own apps on unmanaged devices like smart TVs, streaming sticks and mobiles.

The challenge they face is in losing control of the customer experience and giving up the position of the ultimate aggregator as the smart TV user interface gains prominence.

Other practical issues add to the uncertainty of an app-only model:

- **Upsell options, such as transactional VOD and pay-per-view sports are limited on mobile devices with app store billing charges wiping out margins.**
- **Content genres — for example device app stores may not allow adult-themed content to be included in an operator’s app, a type of content that is an important part of some operators’ profit mix.**
- **Advertising and access to customer data — dynamic ad insertion is technically more challenging on many smart TV platforms, and operators often have much less access to user data where device platforms are themselves competing for ad revenue.**

*“You can’t control your app in the smart TV environment — if the device maker pushes an update, your platform may stop working.”*

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Senior manager video operations,  
European pay TV operator

*“The challenge of using a smart TV rather than a STB is that if the app doesn’t work on the smart TV, there is little insight/data given by the manufacturer to troubleshoot the problem.”*

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Network and infrastructure manager,  
European telco



*“If you don’t have an agreement to be pre-integrated with the smart TV manufacturer, then you are paying for premium positioning in an app store. So either way it comes down to cost.”*

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—Senior manager,  
European telco



Perhaps not surprising that our research finds a majority of operators intend to stick with managed devices for the foreseeable future — although many are moving away from traditional cabled set-top boxes and moving to wifi-only OTT devices, including lower-cost pucks and dongles.

Addressing the challenge posed by smart TV platforms, over a quarter of our research respondents see an operator-managed TV platform as important for their future video service platform.

## Which managed devices do you consider important for your future video service platform?

- 62%** Hybrid set-top box (combines broadcast and OTT)
- 58%** Pure OTT set-top box (e.g. STB puck, dongle)
- 28%** Operator managed TV
- 16%** Only unmanaged device (retail model)
- 2%** Other (please specify)

% of respondents answering this question

Source: Caretta Research



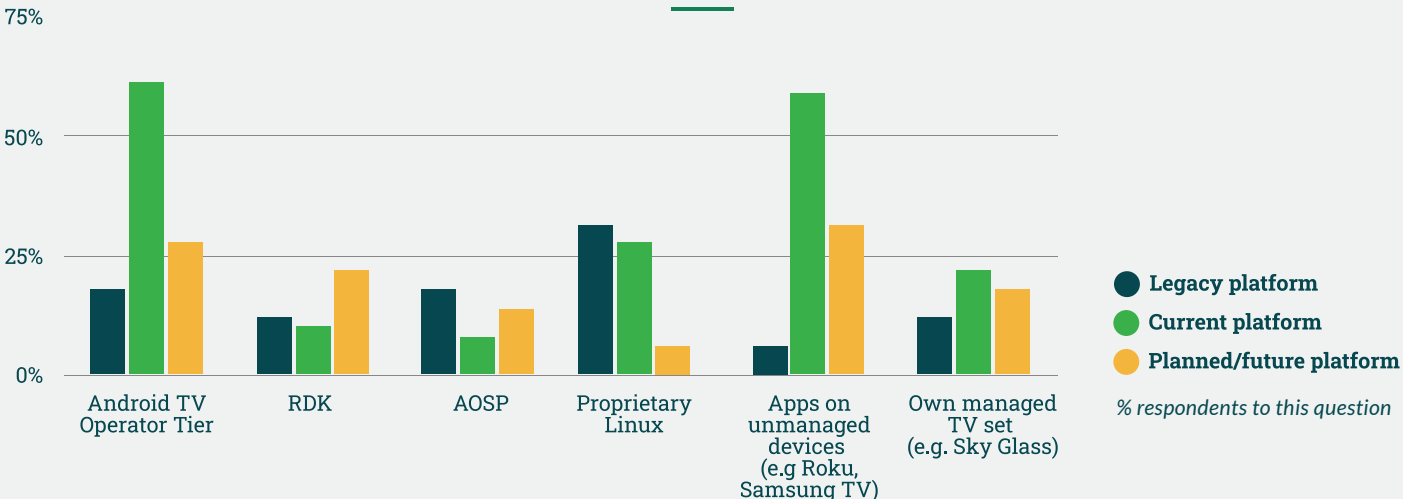
## Planning the frontend of the future

The overall mix of devices is evolving too, and while there is a clear move away from the remaining legacy set-top boxes running proprietary Linux operating systems, operators are clearly signalling interest in a wider range of platform OS options beyond the current dominance of Android TV (ATV) Operator Tier.

ATV has enabled many operators to become effective super-aggregators quickly, but as they respond to the changing market and new competition, they are increasingly looking at options that provide flexibility, control and a consistent experience across all the devices they want to reach.

Along with ATV Operator Tier, the industry-led RDK platform, the open-source flavour of Android, AOSP, as well as apps on unmanaged devices and operator-managed TVs are all candidates for operators' future platform strategy.

## Describe your video platform, STB and device strategy



Source: Caretta Research



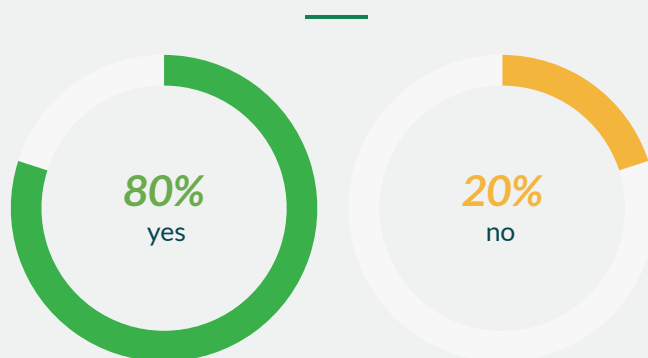
## A single tech stack to reach all

Behind the growing range of frontend platforms, 80% of operators responding say they now have a single common backend platform to serve all devices and consumer platforms. This reflects the importance of flexibility, ease of integration, technology simplification, faster time-to-market, and lower total cost-of-ownership (TCO).

Indeed, TCO is by far the most important consideration for operators choosing their video platform, with half of all respondents citing it one of their most important considerations.

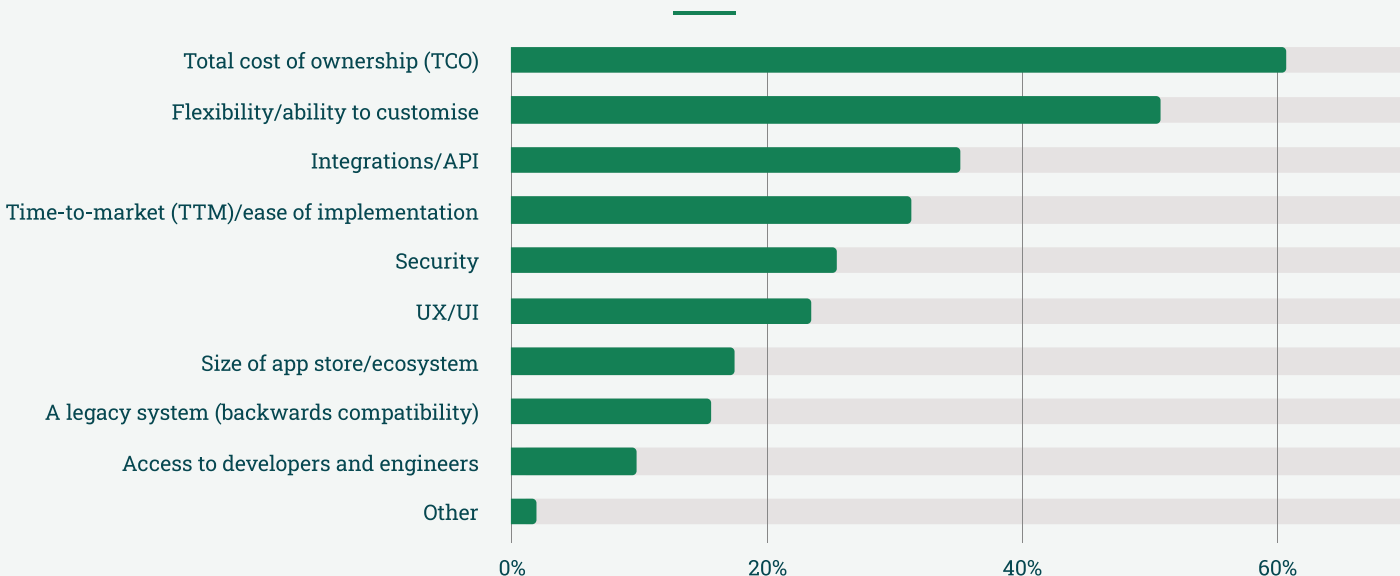
Whereas in the past operators may have had stacks for “traditional” cable and IPTV services separate from their OTT/streaming tech, finances and commercial agility now demand a unified platform.

### Do you have a single/common platform serving both managed devices (e.g. STB) and unmanaged devices (e.g. apps on smart TV platforms)?



% of respondents answering this question

### What are the most important considerations when choosing a video platform?



% of respondents answering this question

Source of All Charts: Caretta Research



# Modern technology strategy

## Careful choices of what to buy and what to build

Our research lifts the lid on the technology decisions operators are making to respond to the changing TV and video market.

Only 12% of modern operators are pursuing a mostly in-house build-it-yourself strategy, and even fewer have a single vendor approach.

By far the most common approach is a hybrid one – nearly half of the operators responding to our research are mixing best-of-breed components from multiple vendors with carefully-planned internal developments where operators feel there is a competitive advantage to be gained.

### What best describes your technology strategy for your video platform?

- 45%** Hybrid: a mix of in-house and vendor components
- 33%** Buy from multiple vendors
- 12%** Build with in-house development team
- 10%** Buy from a single vendor

*% of respondents answering this question*

Source: Caretta Research



For the majority buying some or all of their technology stack from vendors, a customised approach is most common – with more than 40% operators buying components and then integrating and customising them further. This approach can maximise the impact of limited in-house development and engineering resources – allowing for competitive differentiation in key customer touch points and user experience, while avoiding the wasted cost and time of reinventing the wheel.

*"We evaluate whether we can do something better or cheaper than what is on the market. There is always a balance between building in-house and being able to operate the stack."*

—CTO,  
European pay TV operator

### How do you typically buy technology from vendors?

- 41%** Bought, but customised in-house
- 22%** Off-the-shelf or SaaS only
- 18%** Bespoke / customised by the vendor
- 14%** Bought/integrated by system integrator (SI)
- 4%** We don't use vendor technology

*% of respondents answering this question*

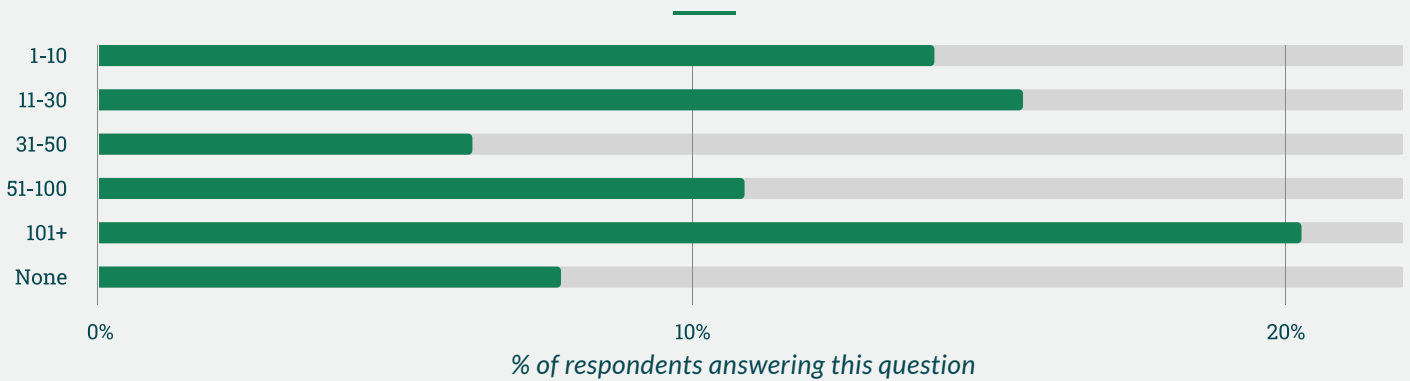
Source: Caretta Research



## Constraints from limited in-house resources

This approach reflects the limited in-house development resources that most operators have to work with — they need to make the most effective use of their teams. Almost half of the operators in our research have small dev teams of fewer than 50 people, and 10% have no internal engineering people at all. Less than a third of operators boast an internal team larger than 100 developers and engineers.

### What is the size of your development and engineering team working on your video platform?



Source: Caretta Research

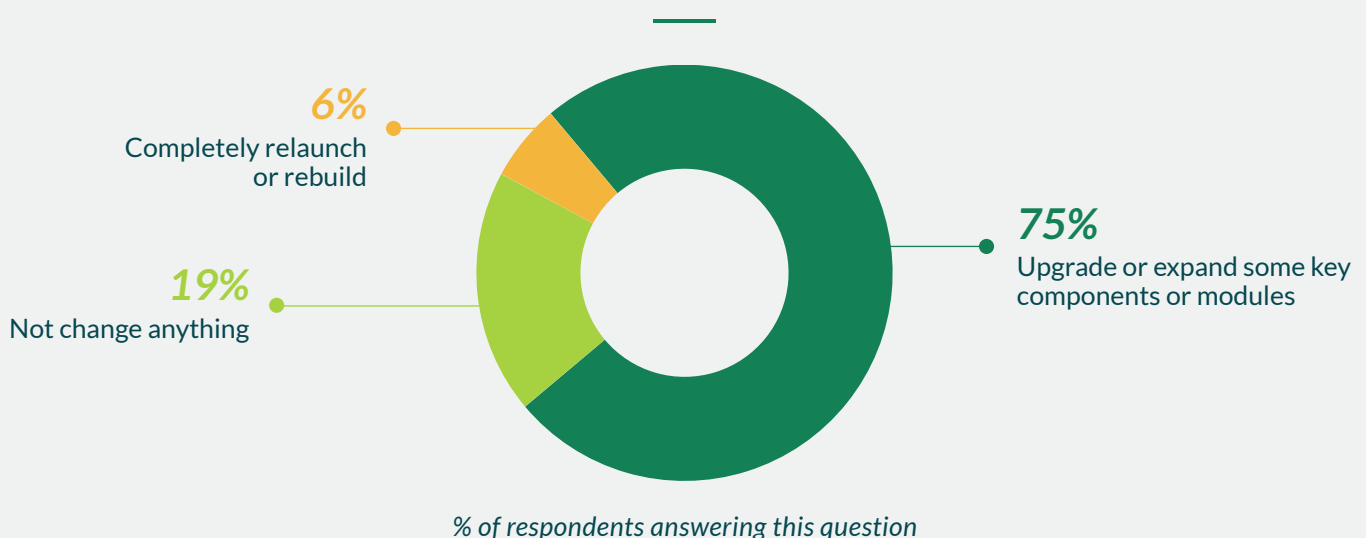
## Platform priorities

### Never-ending updates

For most operators, their video platform is never finished — with almost three-quarters of operators in our research planning to upgrade or expand their streaming tech in the next 12 to 24 months. A small proportion is planning a full greenfield relaunch or rebuild.

One in five operators don't plan any further updates — perhaps reflecting the need to make money out of what's already built before major new investment can be justified.

### Do you plan to upgrade or update your video platform in the next 12 to 24 months?



## Building a better user experience

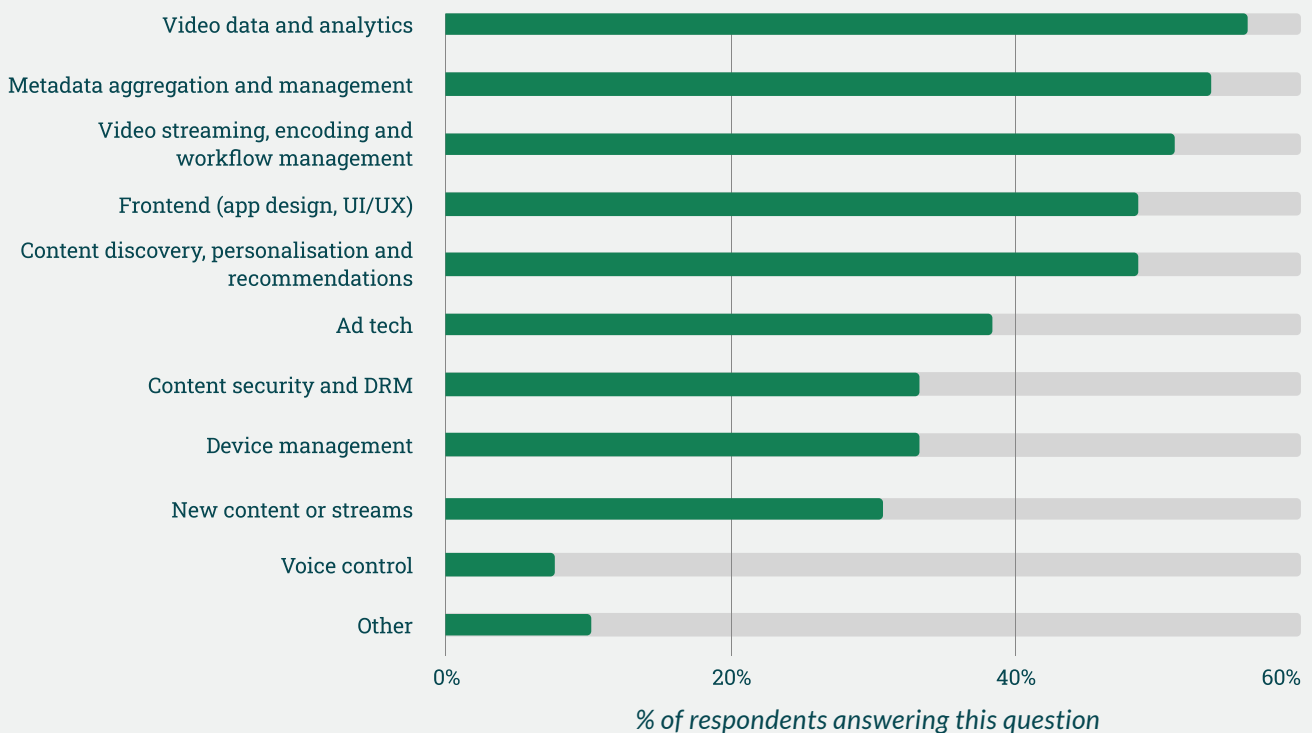
Customer engagement and experience improvements dominate those investment plans, with analytics topping the list. Better understanding video consumers is a prerequisite for growing subscription and advertising revenues, while carefully monitoring their activity and quality of experience is essential for reducing churn.

Reflecting the ongoing challenges of super-aggregation, fixing that troublesome metadata aggregation also tops the list, along with ensuring reliable and efficient video infrastructure to maximise quality of service (QoS) while managing encoding and distribution/CDN costs.

Other user experience priorities include frontend UI/UX improvements, and enhancing content discovery, personalisation and recommendations.

And driving revenues, nearly 40% of operators are planning to invest in ad tech.

### Which components or modules are you planning to upgrade or update?



Source: Caretta Research

*"Customers expect your app will work no matter where they are watching it. Analytics from every platform are important to ensure that you understand where the issues are."*

TV product manager,  
European telco

*"We're focused on the overall stickiness and UX of our platform — everything from frontend features like push notifications and in-app conversations, to new ad experiences. We want to deliver as much value as we can."*

CTO,  
European pay TV operator



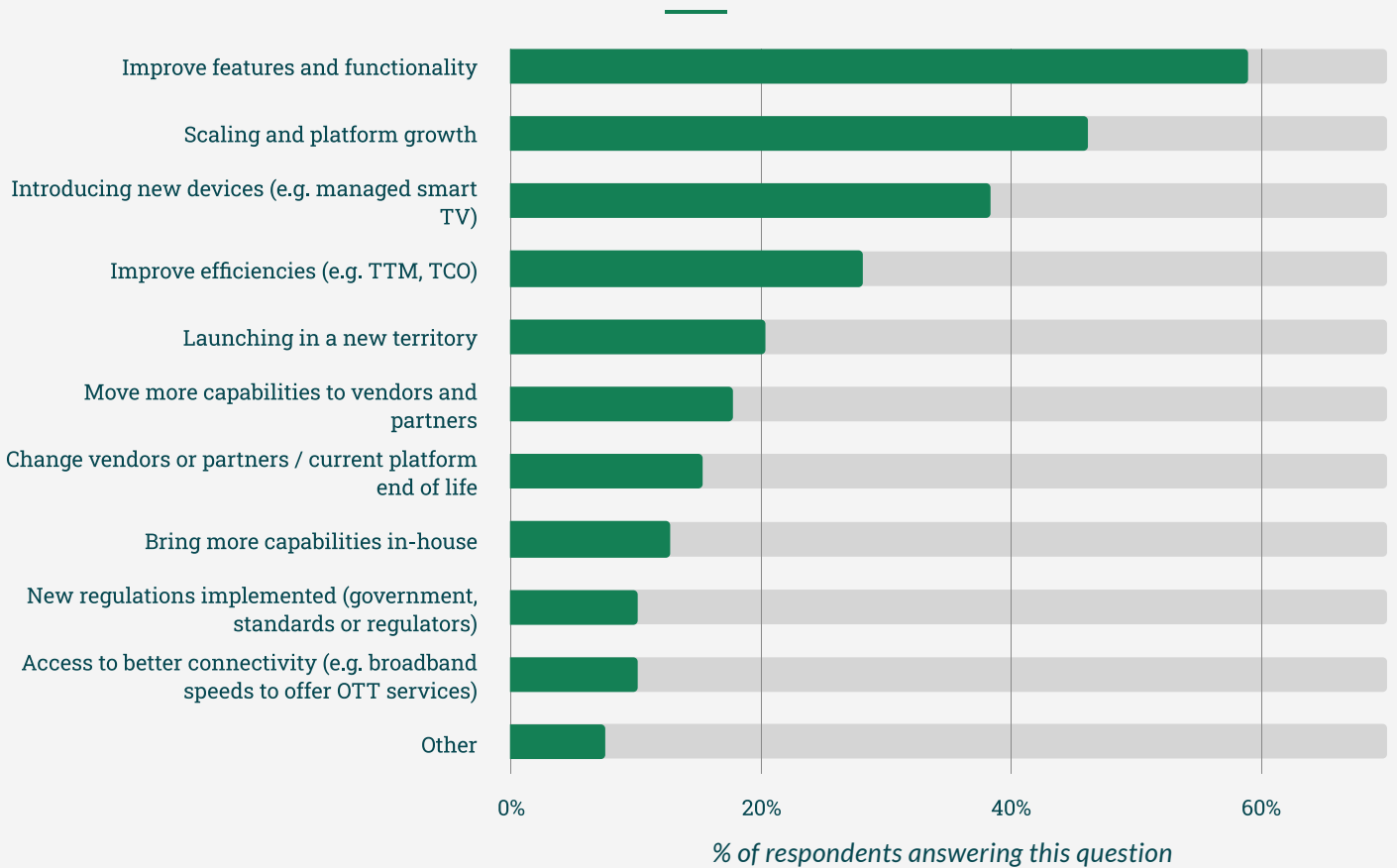


## Delivering at scale

The biggest drivers for making those technology investments are scaling up the platform (46% of operators), reaching new devices (39%), improving efficiency (28%), and launching in new territories (21%). These drivers all reflect the imperative for operators to make their investments in video platforms pay by exploiting them across a larger customer base.

The single leading driver is improving features and functionality, with nearly 60% of operators identifying the importance of investing to ensure their service remains competitive.

### What are the main drivers to update or upgrade?



# Conclusion

Our research lays out the stark realities of the modern video streaming market. Work to build platforms and market share over the past few years, almost at any cost, is now giving way to a sharp focus on growing revenue and profitability.

Technology leaders in pay TV, telco and streaming operators are facing constrained budgets and limited internal resources just as they need to deliver more – scaling up to serve more platforms, with faster time-to-market, lower development costs and putting in place the tools needed to maximise subscription and advertising revenue.

Carefully choosing the right technology building blocks from trusted vendors that can accelerate competitive advantage, and then integrating them rapidly and flexibly is now the main focus for most operators.

Components that accelerate flexibility and scaling to deliver more content to more devices, improving the customer experience and subscriber stickiness, while enabling new revenue streams from advertising, new services and bundling. These are now the focus to drive ARPU and – everyone hopes – profitability.





## About Caretta Research

At Caretta Research we know how the media technology landscape is complicated. We care about helping media technology buyers and suppliers understand the market and make great decisions based on accurate data and focused insights.

Through Caretta Portal and Caretta Consulting we combine decades of experience in the industry with continuous hands-on research and an extensive network of technology buyers and decision-makers to help vendors understand and target their potential market, and to help buyers identify the most-suitable solutions—saving time, reducing risk and lowering costs.

To learn more visit [www.carettaresearch.com](http://www.carettaresearch.com)



## About Irdeto

Irdeto is the leading provider of solutions and services to the media entertainment, broadband, and mobile industries.

Our unique pay-TV operator heritage, our commitment to service, the quality of our solutions, and our flexibility to address our customers' needs makes us the trusted partner for the world's most admired, respected, and successful media and entertainment brands.

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