

THE DPP'S

10 things

YOU NEED TO KNOW
ABOUT GOING LIVE ONLINE

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INTRODUCTION

The world of live broadcasting online is evolving rapidly. In the past couple of years, social platforms such as YouTube, Facebook and Instagram have made it possible for anyone with a mobile phone and Internet connection to broadcast live to the world.

But what does it mean for media professionals to make use of the live broadcasting potential of online media platforms? How does it differ from how consumers share live content? What are the pitfalls – and the opportunities?

This guide is designed for professional content producers who want to go live online. It will outline the platforms to consider, how to get set up and how to deliver your broadcast. It will help you think about all the other aspects of live streaming that apply to online content – from rights and compliance, to creating a video on demand copy. And, crucially, it will also help you understand whether your production was successful.

Why go live online?

As we all know, viewing habits are changing, with more people watching content on mobile devices. An important part of this cultural change is the growing sense of immediacy and engagement brought by live online video. The explosion of live online has taken the professional media sector by surprise. But perhaps it shouldn't have: when video content is viewed on online platforms, it creates a conversation – and conversations are at their most energetic when they are happening in real time, about real events happening right now.

A new form of communication

Live streaming is a very effective form of communication. It brings together two compelling elements: urgency and interactivity. The red flashing light that announces a live event is inherently compelling. It is human nature to want to see what's going on. And then the viewer can communicate back through the online platform. The content creator gets real time interaction with their audience in a way even live TV broadcasts struggle to achieve.

The popularity of live video has been fuelled by the fact it is also easy to do. Fifteen years ago most people would have been terrified by the notion of broadcasting live video over the Internet. Today many do it without even thinking.

WHY GO LIVE ONLINE?

New content from new creators

The growing use of video as an everyday means of communication has led to a huge increase in the range and type of content produced in this way. Live online video is now used in corporate communications to staff. It has become a key tool in marketing, helping to extend brands to new demographics. Sports associations are using live online as a means of increasing engagement with their fan base, as well as to drive revenue. And then of course there is gambling and pornography.

But perhaps the most significant area for live content is gaming. Live streams of individuals playing computer games, or competing against each other (e-sports), is one of the biggest growth areas in media.

It's clear why major broadcasters now see live online as a means to expand their reach, distribute more content and market that content.

Putting audience need first

But the question still remains: Why live? Why right now? Why not shoot, edit and upload a couple of hours later? Does the content really have to be live? Does it really have to have viewer interaction?

As with any content production, it is crucial to understand your target audience. Who do you want to reach; in what numbers; from which demographics; and in which locations?

So, is going live online right for your content? Live may seem an exciting proposition because you get to interact with your audience; but can you really maintain their interest and keep them engaged for many minutes on end? Remember, you are not a consumer: you are producing professional content.

WHY GO LIVE ONLINE?

No one will blame a member of the public for a live broadcast that is boring or poorly produced. But you have no option: what you do has to be successful.

KEY TIPS

- 📶 Don't do a live broadcast just for the sake of it. It's easy to assume that because everyone's doing it, you should too. You need to question from the beginning whether it's right for your content.
- 📶 Is your content inherently urgent, immediate and interactive?
- 📶 Ask yourself: if I was a consumer would I feel I have to see this right now?

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Choosing a platform

There are three overarching considerations before you get to your specific platform:

- audience demographic
- quality of viewing experience
- monetisation options

Audience demographic

It can be very difficult to build an audience from scratch with a live broadcast: it's much easier to deliver to an existing audience. Just as you can't make effective content for a TV channel unless you understand that channel and its audience, the same is true for online platforms. You wouldn't broadcast a high-end drama on a sports channel. You have to understand what each platform does, and who uses it.

Identify your target audience. Look at where that audience's loyalty lies. Once you know where your target viewer goes, deliver your content into that environment. If you already have a large and active social media following on a particular platform, then use it. If you have a busy website, then stay in your own domain.

CHOOSING A PLATFORM

LIVE STREAMING VIEWER PROFILE

Youth	Interested in interaction with other viewers. Like to chat in a safe and familiar environment.
Gamer	Similarities with sports fans. Many enjoy watching others who are better than them. Also like tutorials and industry insight.
Events	Anyone looking for a digital ticket to events coverage – from News to Entertainment, Music to Sports.
Fanbase	Loyal followers of role models, heroes, creatives, talent and celebrities – from the famous to the niche.
Enterprise	Employees and stakeholders of internal or external corporate events.
Consumer	Interested in brand promotions and deals, product launches, demos and tutorials.

Quality of viewing experience

The engagement potential of different platforms should also influence which you choose. Some platforms offer polls, reaction buttons, evidence of other people viewing and live chat. And there are further technical features you might want to consider such as: subtitles and language options; live pause; comments; and sharing with other platforms.

CHOOSING A PLATFORM

If you're working with a hosting partner to deliver a private live stream then you will need to consider the costs of hosting, and the premium features you might need. Also consider the levels of resilience and security required.

Monetisation options

There are a number of ways in which to monetise content. Here are some of the best known:

Pay-per-view and subscription

You can monetise your content directly by putting it behind a paywall that requires viewers either to subscribe to a service or to pay-per-view.

The advantage of using a paywall is that it generates immediate returns, and also enables the viewer to enjoy ad-free viewing. The drawback is that charging for online content will reduce your number of viewers. Pay-per-view and subscription work best for live streams that already have a dedicated audience.

One popular monetisation option is to offer the live content for free, supported by ads or sponsorship, while putting a recorded version behind a paywall as video on demand. Viewers tend to be comfortable with this model as it is a familiar characteristic of VOD.

Advertising rights and sponsorship

You can monetise a live event by selling advertising rights and sponsorship packages. Adverts can appear as a pre-roll before your live stream begins, and as a mid-roll during the live stream - much like in traditional television.

CHOOSING A PLATFORM

Some professional live streaming platforms offer a more seamless and satisfying experience for viewers. Before your live stream you indicate to the service provider where the preferred ad break points will be, and they provide the infrastructure and service to ensure adverts are inserted at that time. The advert then becomes part of your continuous stream, so it can't be blocked by software on a user's computer. Your service provider can also, automatically, call upon an inventory of adverts that are known to be suited to the behaviours and interests of your audience.

The advantage of using advertising as your source of revenue is that it doesn't require the audience to make an active decision to spend money in order to watch your content. The downside is that usually advertisers require a large number of viewers before they commit to buying space.

YouTube offers a program called YouTube Partners that gives you a share of the advertising revenue generated by your video. But this scheme only applies to channels that have at least 10,000 views.

If you can't command the size of audience required to attract advertisers, then you may find sponsorship to be a useful alternative. Sponsorship usually takes the form either of an endorsement of the sponsor's brand in the course of your output, or a graphic – or both.

Social media features

Social media platforms are now offering new ways to monetise live content directly from interaction with the audience. Periscope enables viewers to purchase a Super Heart. Google offers the option to buy a Super Chat. A similar feature exists on Twitch. Essentially these features allow viewers to send a donation in exchange for visibility of their comments during the live

CHOOSING A PLATFORM

event. The more the viewers pay, the more on-screen visibility they get during the live stream. These features also enable content creators to identify their biggest supporters and to reach out to them.

Social media vs professional video streaming

Social media platforms

Currently the most popular live streaming platforms are Facebook and YouTube. In addition, there are other popular social platforms such as Instagram, Periscope, Snapchat, Twitch, Twitter and YouNow.

Facebook Live

Widely used by both consumers and professionals. It has the potential to give you the most viewers and biggest reactions, helped by its push notifications. Good for face-to-camera videos, live-action shots from events and studio broadcasts. But it's also easy to be lost in the noise of such a big and busy site.

Facebook themselves gave some key tips for successful video to DPP members in our **Meet the Online Pioneers** report.

Instagram Live

Instagram is owned by Facebook. Unlike Facebook and Twitter, Instagram's live video disappears after viewing. It works best for short, casual interactions with a familiar audience.

SOCIAL MEDIA VS PROFESSIONAL VIDEO STREAMING

Periscope

Periscope is owned by Twitter. It is a platform for consumer driven video streams. Periscope pushes the stream to connected Twitter feeds for maximum viewership, and lets viewers interact with the stream in real time.

Snapchat Live Stories

Snapchat deals with live differently. If you are at an event such as a concert and you want to live stream your experience, you go onto Snapchat and see if Snapchat has also selected the event. If so, you can contribute your live stream to a Live Story. Live Stories are aggregations of different live streams from various Snapchat users, curated by Snapchat.

Twitch

Mainly used by consumers to provide live streams of themselves playing video games. But increasingly also used by professional providers. Twitch is owned by Amazon.

Twitter Live

Good for short, spontaneous videos when something catches your eye. Think of it as live video news that shows what's happening, rather than a means of delivering a message - eg for short live clips of conferences, launches, or events.

YouTube Live

Consumer and professional streaming service that is increasingly leaning towards professional providers. YouTube Live presents official branded channels. It's more of a pull mechanism than push. YouTube is owned by Google.

SOCIAL MEDIA VS PROFESSIONAL VIDEO STREAMING

YouNow

Dedicated almost totally to consumer to consumer. It allows creators to accept tips and gifts from fans, and is now considered the entry point for digital stardom.

KEY FEATURES OF SOCIAL MEDIA PLATFORMS

- Access to existing social network user base
- Social network features such as sharing, tagging and comments
- Live interactive text chat
- Push notifications of live events
- Global reach

Professional video streaming platforms

There are a number of video or live streaming service providers (LSSPs), such as Brightcove, Livestream, M2A, Ooyala, Píksel, Ustream and Vubiquity. These companies enable professional quality live streaming solutions. They will take your live content, generate multiple versions and deliver to multiple platforms, including your own website. You supply the input stream and they do the rest.

The hosting of your live stream on your own website or app is an effective way to prioritise your own branding and reinforce your messaging. This approach can be particularly effective if you already have a strong following via that website or app.

SOCIAL MEDIA VS PROFESSIONAL VIDEO STREAMING

Most live streams hosted on companies' own websites are in fact provided by third-party professional video streaming services. They provide some code or a web link that can be embedded into your own website or a website of your choice. These services manage the resilience of the stream, make sure that you can cope with very high numbers of users requesting the video, and manage the process of delivering to those users.

These professional video streaming platforms also have tools in place that allow you to drive traffic from a social platform back to your own website – so you can have your live stream playing in both places at once. You can let users share the live video hosted on your website across social media platforms via the social media plugins that display a sharing button and are linked directly to your social media accounts.

There are some platforms that are free of charge, but they have quality constraints – such as lower resolution and a constraint on the amount of data you can stream (also known as the bitrate). Many of these free-to-use platforms don't offer support in the event of a problem.

In addition to ease of use, high picture quality and customer support, professional live streaming platforms also offer a wide range of audience engagement tools and multiple viewer experience options (such as virtual VTR for rewind and catch up), as well as various monetisation and analytics features.

The cost of using such platforms will be determined by the features you require and the volumes of live video hours, video data transferred, and audience viewing hours.

SOCIAL MEDIA VS PROFESSIONAL VIDEO STREAMING

KEY FEATURES OF PROFESSIONAL VIDEO STREAMING

- Mix of live and VOD functionality
- Wide monetisation range
- Enables hosting within your own branded web domain
- Private live events for smaller groups or enterprise users
- Customer support
- High resolution and picture quality
- Wide range of audience engagement tools
- API access for multiplatform integration

The table below may help you decide which kind of platform is best for the live stream you want to create:

You want to...	Your best match will be...
Stream a live event, provide a video feed and let the platform transcode and deliver.	▶ a video streaming service provider or social platform.
Stream a live event and monetise the content as pay-per-view or VOD.	▶ a video streaming service provider.

SOCIAL MEDIA VS PROFESSIONAL VIDEO STREAMING

You want to...

Your best match will be...

Stream a live event, create a branded experience and generate more internal traffic for your website.



your own website or app player via a streaming service provider.

Stream a live event to increase the number of your social media followers.



a social platform.

Stream a live event and simulcast to multiple platforms.



a video streaming service provider that can direct traffic to and from your website and social platforms.

Getting an audience – and keeping it

The world wide web is a mighty big place: how do you get noticed? In this section we look at how you can promote your live event and gain audience engagement.

Marketing your live event

The global nature of online platforms means all of a sudden your target audience isn't just the population of your country, but the two billion or so people globally who have Internet connectivity. Somewhere in that two billion is your potential audience. They will need to be guided to your live event.

The exciting thing about social platform marketing is you can be extremely specific about your demographic. For instance, you could choose to target only people who have already liked things that relate to your subject matter, or who live in a specific city or town.

These targeted approaches can be achieved by making use of online social marketing tools which target multiple social platforms at once via notifications, hashtags, keywords and demographic criteria.

GETTING AN AUDIENCE - AND KEEPING IT

Creating and maintaining engagement

Opinions vary about the length of time you have to grab someone's attention online. But the consensus seems to be somewhere between one and five seconds. As Facebook points out, with online video you don't build to a big moment - you start with one. And then you need lots more.

To generate this kind of energy you will need to generate a unique, real-time experience that encourages your audience to comment and interact, turning individual viewers into a community. You will want to keep the dialogue going and build on the opinions and feedback. Your audience will want to influence your content as it's being created. The way you react is what can make it magical.

Late comers

You will also need to drive traffic to the live event while it's happening. So, if you have an existing social media platform, make sure you use the engagement features to your advantage. These can be push notifications if you're on Facebook; retweets if you're on Twitter; hearts on Periscope, and so.

Most platforms allow you to see the numbers of viewers go up (or down) while live streaming. It's important to ensure that those who join late are made to feel welcome - otherwise they may just dip back out. Consider the insertion of additional welcome messages or use pop up graphics to summarise what's happened so far. You might want to schedule key moments in the broadcast where the presenter or participants re-introduce themselves.

Online audiences are very active, and can be very fickle. This continuous two-way engagement is essential if you are to maintain your audience throughout the broadcast.

GETTING AN AUDIENCE - AND KEEPING IT

KEY TIPS

- 📶 Don't just go live from a standing start. Market your broadcast heavily in advance.
- 📶 Understand the audience and their level of engagement. Most online platforms will help provide insight via their audience dashboards.
- 📶 People want to feel loved and listened to. Involve the audience as much as you can.
- 📶 You need skilled editorial people to respond to audience engagement during the live broadcast.

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Getting set up

Don't make the mistake of thinking online means rough and ready. When live streaming became popular, there was a misconception that consumption on small devices made it cheap to produce. The fact is, most online content is consumed on high resolution displays – big and small.

The vast amount of online video content now available means the audience can be choosy. They are unforgiving if the audio, lighting or video signal quality are poor. Unlike a traditional broadcast, the negative feedback won't come later: you'll see the reaction immediately. Not only will you lose audience; your brand will be damaged.

Having said this, there is a lot more flexibility in production values online, which might mean that you don't always have to spend vast amounts of money. 'Quality' means many things: relevance and 'unmissability' can matter just as much as picture quality.

Producing an event such as a red carpet for a film premiere on Facebook Live could actually be very similar to a small scale TV production. But if you have special access to the stars, it could be acceptable just to use a mobile device and go live from it directly.

Production for online can require a higher level of multiskilling than traditional TV. You will capture, make editorial decisions, and play back other packages and overlays, including some of the social media or audience

GETTING SET UP

participation, all while live streaming. It's a mixture of normal producer skills with challenges that are unique to online. In many ways therefore, live online video has much in common with live news – even if you wouldn't regard your content as news.

So make sure that from a production management perspective you have the right people and equipment to support the scale of your event. Remember that 'scale' in this context may mean the scale of response you get, rather than the scale of the location set up.

Filming equipment

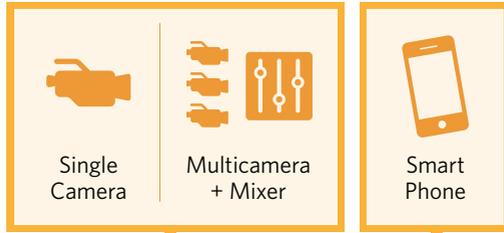
Your camera choice is of course a major part of your live streaming production. It makes a huge difference to the quality and costs. You have a range of options from a smartphone, to a broadcast quality multi-camera setup.

Smartphones

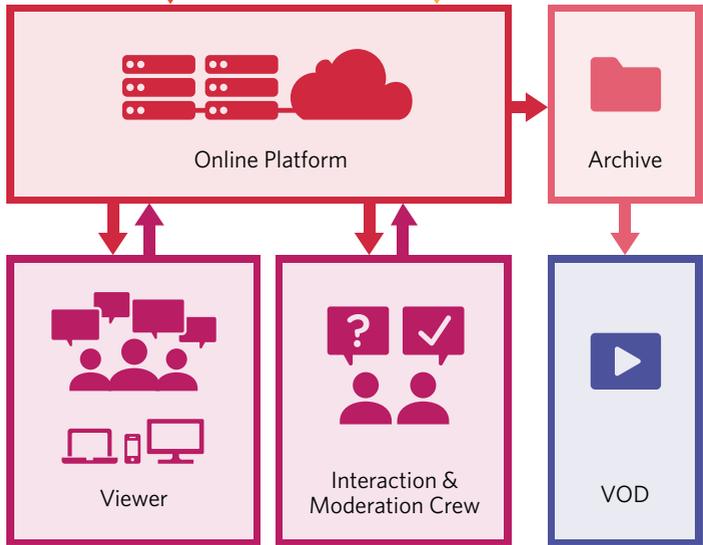
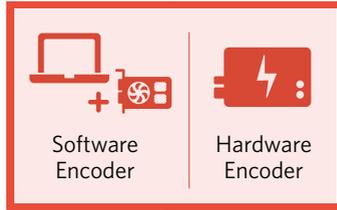
There are plenty of situations where you might opt to shoot on your smartphone. It could be for reasons of access; for low profile; or to enable you to move more quickly. Being on a smartphone also enables you to set up more quickly, and it may give you a better chance of capturing a unique moment. When watching a live broadcast that clearly comes from a smartphone, your audience's expectations immediately change. They will sense something with high impact is coming. And that in itself is a guide to whether using a smartphone is appropriate.

Live Production Workflow

Filming equipment



Encoding and streaming



Connectivity



GETTING SET UP

Modern smartphones boast high megapixel cameras, but this capability is crammed into very small sensors: they still can't compete with the quality of a broadcast camera with a good lens. In many ways the emphasis on audio quality is increased if picture quality reduces, so bear in mind if you are shooting live on a smartphone that you may need an additional microphone. There are now very compact wireless and wired microphones designed for smartphone use.

Also, a smartphone is a single point of failure. If everything is happening on one device - filming, audio, encoding - then if that phone goes down, so does the entire live stream. Plan and practice for this eventuality, and have your fall-back plan in place. And don't forget the obvious - such as making sure your smartphone is fully charged, and that you have blocked calls and alerts.

Professional cameras

Just because you can go live online on a smartphone doesn't mean you should. It's the online platforms - not TV - that are leading the race in higher resolution delivery. YouTube, for example, enables you to deliver live 2K and 4K video. So you need to think carefully about your camera choice.

Professional cameras offer more flexibility, as they give you all the features of professional photography. Options range from a single professional camera with a video encoder to a multi-camera setup, with a vision mixer - much like a TV outside broadcast.

Choose the technology to match your filming scenario: consider picture quality, mixed camera angles and appropriate lighting. Always use a camera that shoots at least HD quality. HD has become the minimum standard for video, including online streaming, so your audience will expect nothing less. Even

GETTING SET UP

when delivering to a social platform such as Facebook (which runs at 720p frame size) still film at 1080p and then let the encoder down convert to 720p.

Your camera will need a variety of input and output options to cover your live production needs. For professional quality video and the flexibility to connect multiple cameras to a broadcast vision mixer, you will need SDI ports – although some lower-end devices will support HDMI input. For higher quality audio, look for XLR connections as these will allow you to plug external microphones and sound mixing devices into the camera. An HDMI port allows you to monitor your live stream on a separate HD device.

Encoding and streaming

Encoders are devices that compress video into a format suitable for Internet streaming. Online streams then need to connect to a remote site – just like a live TV broadcast – to pass the video on to the audience. There's a range of different ways you can live stream from professional cameras, but rather than connecting to a broadcast satellite truck, you will need to connect to an encoder that then delivers the live stream via the Internet.

Unless you have a good degree of technical knowledge, it is best to get professional support to help you set up your encoder and your streaming. But if you do want to know more about encoders and streaming, go to the **Factsheet** at the back of this guide

Connectivity

Connectivity has to be at the top of your priority list. One of the biggest mistakes people make is to leave connectivity until the very last minute and then book venues without the Internet connection required for their event. Make sure you research the connectivity available at the location, and that you

GETTING SET UP

have the speed and quality you need. Find out if there is an option for backup connectivity if your main connection fails or becomes slow.

Live streaming companies can bring their own Internet connections to a location and can help remedy connectivity issues for you.

CONNECTION TYPES

Wired and wireless broadband

In a standard office set-up you will probably have access to broadband via a wired Ethernet or a Wi-Fi network. Use hard-wiring if possible because Wi-Fi can suffer under high traffic loads, particularly if you don't have a private network.

4G

4G connectivity works well if there is good coverage and other people aren't also using 4G. The rule of thumb is: if you can't send a text then you're not going to be able to send a live stream.

Satellite

If you are in a remote location with no available connectivity, you will probably have to rely on a satellite broadband connection. There are small and more affordable satellite set ups that don't require a satellite vehicle, but you'll still need a BGAN (Broadband Global Area Network) or similar device. These devices are about the size of a laptop but require careful health and safety planning due to the microwave radiation hazard.

GETTING SET UP

Speed testing a line for its optimum capacity is an important part of any recce and technical preparation. Never assume fast connections – even some city centre locations struggle to get good Internet speeds. A fast connection needs to stay fast for the duration of your live stream, and not be contended by lots of other users with access to the same network.

The maximum contribution speed for online platforms is currently about 10 Mbps, but most platforms expect at least 2 Mbps. For Facebook Live for example, 2.2 Mbps is sufficient for most situations. YouTube can go over 10 Mbps for some of their higher quality points of delivery. To ensure your stream has good reliability, it's best to stream at around 70% of your speed test capability, to leave some headroom for any issues with the signal.

If you are doing a high value, multicamera event, you will want a secure and stable connection. At this point you should seek professional support.

It's easy to underestimate the upload bandwidth required between the encoders and the services that receive the stream. Try not to share that bandwidth with other applications – such as people browsing the web. Dedicate the whole connection to live streaming if possible, and use another connection for moderation. If you are using a venue's connectivity, request that they don't block any ports – as you may need to use them for sending the video signal. If in doubt, speak to a professional streaming service provider, and get support from a streaming specialist.

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HOW TO SPEED TEST YOUR CONNECTION

- 1 Use a wired connection if possible.
- 2 If connecting via Wi-Fi, make sure the router is away from other electronic devices and temporarily disconnect any other devices that are not part of the live production from the Wi-Fi network.
- 3 Close or quit all irrelevant software or apps on your computer.
- 4 Launch your web browser ensuring you have JavaScript turned on (it usually is unless you switched it off) and Adobe Flash installed.
- 5 Go to **Speedtest.net**, or another speed testing site. Click the green “Begin Test” button. The site will check both your download and upload speed. It will take from a few seconds to a few minutes, depending on your network speed.
- 6 If the speeds reported are lower than you require, make plans to get better connectivity for that location – or select another location.

GETTING SET UP

KEY TIPS

- 📶 If you are shooting on a smartphone, use a tripod – unless you’re going for unique handheld content. Shoot landscape mode to ensure your footage will look good on TV and computer displays.
- 📶 When shooting with a professional camera, keep it as steady as possible – not just for a better shot, but also for better encoding. If your picture changes every half-second because it’s wobbly, it’s going to stress the encoder, and this could make the signal break up and drop out. So mount your camera on a tripod or get a handheld steadicam.
- 📶 Always deliver in **progressive** mode (hence 1080p).
- 📶 Your encoder settings are important to the quality of your broadcast. Make sure you know which settings you need for the quality of image you are sending, and the platform on which you are broadcasting.
- 📶 Always do a line test as part of your recce to ensure you have the speed and bandwidth you need.
- 📶 Use a wired connection if possible.
- 📶 Make sure you have a backup plan in case things go wrong. The **Factsheet** at the back of this guide is a starting place.
- 📶 For in-depth information about Connectivity, read the DPP’s **10 Things You Need to Know About Connectivity**.

Going live

Now that you have chosen your platform, marketed your event, set up your capture and streaming mechanism, it's time to go live. Settings will vary between platforms and you should always consult your chosen platform's user guide for more in-depth instructions. But as a general overview, here is what to do:

Preparing

1 Create an account in advance

Most online platforms require advance login and account verification via SMS or email. Make sure you have an account in place well before your go live date. If you are embedding a player in your own website make sure that it has the correct event identifiers so it knows which stream to look for. Also make sure you have run a test.

2 Set up your live event

Go to the live event set up page and enter a title for your event, a description and any metadata, keywords or tags. Make your description interesting and catchy. Where possible, have your location turned on so your broadcast appears on local social media feeds. At this stage you can normally add images or thumbnails to attract attention.

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3 Schedule, or go live immediately

You can start your live stream on-the-fly at any time or allow the platform to schedule and push the stream live at your chosen date and time. Some platforms will issue a streaming (or authorisation) code that you will need to add to your encoder so it knows when and where to stream live. Scheduling is a major part of planning for a live online broadcast. Make sure you understand your audience and when it's best to reach them.

4 Select a security setting

You can normally choose between public (available to everyone online) or private (you will need to invite guests selected in advance). There are different methods for delivering the stream into video players, some of which will protect the delivery of the stream so that only people who paid to watch can access it. Additionally, some platforms allow you to target a specific demographic, such as location, age and gender.

5 Select customisation options

What advanced features will you need for your live broadcast? The most common options are: live chat; comments; positive/negative reactions (likes, etc); moderation; and recording and playback preferences. Professional live streaming platforms will offer several additional features.

6 Run a rehearsal of your live broadcast

It's possible to pre-test going live by creating a dummy live event that only you can see. You will need to ensure that your privacy settings are set accordingly to prevent your followers from being disturbed by test notifications. If you are using a professional streaming service you can test the player on a hidden page on your website.

GOING LIVE

7 Know your story

Make sure you plan the running order and script for your live broadcast in advance so that when you go live you don't lose track of what you set out to deliver.

Hitting the live stream button

Once you have your settings in place, you are ready to go live.

- To start streaming on-the-fly, start your encoder and watch the encoder status to confirm you're live. To stop streaming, hit stop on the encoder.
- If you're doing a scheduled event you might – depending on your online platform – see a countdown. When it reaches 0:00, you're live. The video feed from your encoder will go live automatically at the scheduled event time.

Streaming live

When starting a livestream, it may take several seconds or even minutes to get a significant number of viewers into your live event. So don't just hit the "Go Live" button and immediately start delivering your content. Go live with a holding slide or a countdown graphic, so that people know things are about to happen. This generates anticipation.

Give your live stream enough time to reach people and get traction. The longer you are online, the more people you will reach. A five minute session may not be sufficient time to build an audience.

GOING LIVE

KEY TIPS

- 📶 Scheduling is key to build an audience before the broadcast.
- 📶 Make sure that people know it's coming, and, when you go live, that it's on.
- 📶 Plan carefully: have a script and running order.

How live is live?

How long does it take to deliver a live stream? The answer to that question may be more difficult than you think.

The most important consideration is that your picture and sound are locked together (or 'in sync') before you send them. As long as this is the case, then it probably won't matter if there is a little delay in your stream reaching different parts of the world.

The latency issue

There are plenty of points in the online chain where delay can occur. This is known as latency. There is buffering at the encoder; at the ingest point; at the point where you transcode and deliver the stream, and where a consumer's device gets ready to play. All these delays will probably add up to less than a minute in total. But it's in the nature of online streaming that live is never truly live.

Working with latency

Usually the audience isn't particularly aware of latency and it doesn't impact on the viewing experience. Latency may be more of an issue if, for example, you are covering an awards ceremony where people might be tweeting results before the live stream reveals the winner. And if you are live streaming on one of the major social platforms at the same time as broadcasting on a television channel then the lag in the social media video will be noticeable. The best way to reduce latency is to work with a professional streaming service provider.

HOW LIVE IS LIVE?

KEY TIPS

If a little delay is a big problem for your production, this is what you can do:

- 📶 Avoid streaming direct to social media yourself; instead choose a professional streaming platform with built-in mechanisms to reduce the latency. This is likely to reduce total delay to less than a few seconds.
- 📶 If cost is an issue, then ensure that you have the best connectivity available and that it's dedicated to the live stream.

Be aware: If you're delivering live to multiple platforms, each might have its own degree of latency. There is little you can do to reduce this discrepancy.



Keeping it legal

Currently few territories have specific regulation of online content. However, general legislation around, for example, defamatory, racist or abusive content will still apply. Quite aside from the law, you should still seek to apply the highest editorial standards in order to maintain the reputation of your brand.

Compliance requirements

If you're a broadcaster and you are delivering your channel or event live online, you should assume the same regulations will apply to your online content as apply on TV. If you are not a broadcaster, then your concern should be for the reputation of your brand. Make sure everyone on the team knows when you have gone live. They cannot say something that is libellous or legally sensitive. If they do, then you should contact your lawyer immediately.

Moderation tools

Platforms such as Facebook and YouTube have clever content filtering systems. They use a mixture of machine intelligence, keyword detection and human moderation.

Some platforms allow you to turn comments off, or reduce them to simple "like" or "don't like" icons. Others give you the ability to filter comments before they go public. You may even be able to block an abusive individual from your feed. Consider these features when selecting your platform.

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Human control

You will need someone at base monitoring the feed, watching the comments and making decisions about what's appropriate. The majority of live feeds can be configured to have a delay to enable you to stop the feed or switch to a standby feed if something troubling happens – although you will only have a few seconds in which to make the decision. If you are working on a live vision mixed production, it is the producer who has responsibility for what is being broadcast.

Ultimately, moderation ensures that your live broadcast is complying with your objectives and the reputation of both your brand and any brand with which you are working. If you are working closely with a particular brand, they will normally want their own team to be directly involved in moderation – and this will be of great help to you.

Clearing copyright

Content that you put out online has to be 100% licensed and cleared for use. This applies to all music, stills or photography work. The copyright owner must be identified and remunerated.

It's highly recommended that you speak to a copyright expert about the content rights for your live broadcast. In the online world, all elements of copyright have the exact same controls as for any other media – but bear in mind that the Internet means you are operating globally.

If you're live on YouTube, its content ID system will close your stream if you have streamed more than 30 seconds of copyright protected content that you haven't previously 'white listed' (that is, given the system permission to use) for your own channel. Facebook Live is similar: it has automated moderation

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that will shut down your live stream if you are playing copyrighted material. Professional streaming services don't often have this automated moderation feature, but if they are delivering your stream to Facebook Live or YouTube they will still need to white list the content.

Protecting your output

The moment you put content online you should assume it will get shared. This may of course be exactly what you want to happen. The question of whether unauthorised sharing is an issue relates to the nature and value of the content. If you do wish to protect your content, consider the following:

- a live stream of video data can be hacked and interfered with, so it's important to have someone monitoring your live output who knows what it should contain.
- if you have a social platform you will need to make sure you have a very secure password and change it regularly to ensure it isn't hacked.
- you can protect premium content with studio-grade DRM (Digital Rights Management) which prevents unauthorised redistribution of digital media. A professional online platform with DRM encrypted solutions will ensure content is secure and will minimise the risks of it being ripped and distributed for free.

Social platforms

The recordings you make before they reach an online video platform are subject to your own rules and agreements. But once content is on a social platform ownership becomes less clear.

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If you have premium content then you will need to read the terms and conditions of the platform you are using: you may find you are handing over your rights to that platform. You may find you retain intellectual property rights and technically the content remains yours, but the platform may still have the right to do what it wants with it. Legal teams can negotiate bespoke arrangements with individual platforms.

How do I know who watched?

Each of the major platforms will have basic tools for you to analyse your audience after the event – and perhaps even during it.

General audience information

All social platforms will give you viewing numbers, but each has a different concept of valid views. For example, certain platforms measure a video view as someone who has watched for more than three seconds. On other platforms the measure may be either a proportion of the video, or thirty seconds. Understanding what constitutes a single viewer is important – and will be vital to any brand or sponsor you work with – so agree the metric of success before the event.

There are data analytics and customer relationship management (CRM) tools that you can use to manage the data after the event. Your data is recorded on the platform, so premium services can take that data and present it back to you in a way that is more compelling and useful.

Extracting high quality analytics

Professional online analytics tools will be especially important if you are generating revenue from your content: you will want to know exactly how and where that revenue is being generated. Such tools will enable you to

HOW DO I KNOW WHO WATCHED?

know when viewers started watching; when they stopped; how many people shared the content; how many people liked it; your peak times and drop offs; what the audience was consuming before and after your broadcast, and so on. If you are using the dynamic insertion of adverts into the content, the platforms will know how many people have watched the advert and you will be paid appropriately. This differs from the TV model.

Some technologies even allow you to tap into wider information held by Google or Facebook. They can integrate audience data into their own analytics platform, and then generate wider, qualitative information about the audience, such as their interests and the types of content they consume – as well as detailed demographic information.

You can also of course gain valuable qualitative data from the discussion around your broadcast, in the comments, blogs and reviews across a range of platforms and publications.

Using audience data to develop a brand or format

It is not an overstatement to say if you aren't using audience data you shouldn't be producing online content. It is precisely the ability to gather and respond to audience information that makes online content creation so distinctive – and rewarding. You can understand, in real time, precisely what works and what doesn't. With multiple events this data builds into a picture that gets more and more meaningful and enables you to build and sustain a quality offer.

Live online could be considered as a way of developing new content. When pitching for a commission or client, why not test if you can get an audience? Perhaps you can refine the idea with a few attempts and build a stronger proposition.

HOW DO I KNOW WHO WATCHED?

KEY TIPS

- 📶 Publicly available data can be confusing, and primarily has the aim of providing promotion for the platform itself.
- 📶 Each platform uses a different metric. It can be difficult to determine the difference between live views and video on demand views.
- 📶 Professional online analytics tools can provide valuable insight and help you refine your proposition.

Turning live into VOD

It is now common practice to record and store a live stream file so that it can appear again immediately afterwards, or be packaged up for resale later.

There is a variety of different means of creating an archived copy of your broadcast.

- There are professional platforms that can offer consumers a rewind, VTR type experience. This is called Digital Video Recording (DVR).
- Some professional online platforms also offer 'live to VOD'. At the end of a live event, there is a very small window of opportunity in which to market and monetise what has just been shown. The value declines exponentially after a few hours, so it's critical to turn the content around into VOD extremely quickly.
- You can make your own recordings of your content by simply recording the output to a hard drive while it is being sent to the encoder. This will give you the best quality archive copy.

You may want to create a highlights reel after the live broadcast. This is another way of engaging those who missed the broadcast - and also creates a second moment of exposure for your content.

TURNING LIVE INTO VOD

KEY TIPS

- 📶 Ensure you have a robust archive system in place so that you can reuse and monetise your content afterwards.

Encoding and streaming

When choosing the encoder for your output you have two options: a hardware encoder, or a computer running a software encoder. Hardware encoders are more reliable because they are built just to encode and stream. Software encoders depend on the computer on which they are installed, and a video capture device, before they are able to stream. Your encoder will connect to your video streaming platform via a target IP address, login or URL. You may need to enter some security details in order to connect and deliver your stream.

You will need to ensure that your camera or vision mixer can be easily plugged into your encoder. In some instances you won't even need a separate encoder as some cameras can deliver a live feed straight from the camera; but the most common approach is to plug an HD-SDI feed from your camera into an encoder, and then deliver the stream.

There are a variety of different streaming protocols for delivering the video stream. These include HDS, HLS, Smooth, MPEG-DASH, RTMP and WebRTC. Most online platforms will accept an RTMP feed, and will use that to deliver the live stream to your audience - much like a broadcast signal gets encoded for TV transmission. Depending on the devices and applications to which you are delivering, however, you may need to use a specific streaming protocol. You should read the guidance notes from the social media platform you plan to use, or speak to your professional streaming service provider to understand which protocol is right for your event and output.

FACTSHEET

HD-SDI equipped cameras can attach a small battery powered encoder that sits on top of the camera and enables you to go live directly from the camera, as long as you have Wi-Fi at the location.

There are all-in-one hardware vision mixing solutions designed to provide a high quality production with minimal user effort. These devices take in HD-SDI feeds and provide basic vision mixing capabilities. If the vision mixer doesn't generate the stream itself, then the output is passed via HD-SDI or HDMI into an encoder connected to the Internet, which delivers the stream to the online platform.

Many of the newer encoding systems come preloaded with settings to allow you to simply log into your online platform account and deliver directly. Whenever you're ready to go live, you just push the button either on the software or on the encoder and it will deliver the live stream. Just remember to logout at the end of the event: you don't want to return a hired encoder and pass your security settings onto another production.

There is no single standard for live streaming. There are different codecs, bitrates and streaming technologies. If you're delivering into your encoder in the highest quality UHD or HD feed, you can choose to let the encoder adjust to the platform's video requirements, or you can stipulate the bit rate, codec and resolution according to the requirements of your chosen online platform.

Making a backup plan

Online audiences are normally tolerant of minor technical issues. A slight break in the broadcast won't necessarily be as harmful as a break in broadcast in live television. Having said that, always go for the best resilience you can afford.

Parallel encoders

You might want to run parallel encoders, in case one fails – especially if you are doing a major event. Some of the newer encoders have parallel systems built into them. You can run a 100% mirrored backup which splits all camera feeds and provides an entire backup system.

Backup connection

For high profile events use two connections so that if one drops out the other is there to pick up. If the streaming platform will accept more than one stream, then send two versions of the feed, ideally over two different Internet connections, from different providers.

GFX

Have provisions such as graphics ready to go if the feed goes down. Make sure the message that there's a problem goes out immediately, and that the audience is aware of what's happening. Your team needs to be briefed on what to do if the stream fails and know how to load the graphics, especially if you lose connectivity. It's valuable to have someone back at the office with this responsibility, in case it isn't possible to load the graphics on location.

FACTSHEET

Resourceful crew and spare equipment

Your best resilience is a crew that knows how to fault find. Avoid having one person controlling everything: it's important to have key people at the various stages of the process. The streaming element, for example, should have an individual in charge of it.

The most resilient productions will have a full replacement kit, even if it isn't powered up, so that equipment can swapped out if it fails.

This DPP production was brought to you by Caroline Ewerton, with Andy Wilson and Mark Harrison. The DPP would like to give special thanks to all those who generously shared their expertise: Anya Saunders, Colin Warhurst, Laura Jordan-Rowell and Terry O'Leary (BBC), Andy Bielinski, Andy Wilson and Leila Delezenne (Brightcove), Olly Starkey (Four23), Steve Sharples (GlobeGig), Simon Green and Tim Plyming (Green Rock), Jayne Sykes (ITV), Abi Hemingway and Simon Haywood (Jackshoot), Paul Mardling, Robert Coletti and Tom Houlbrooke (Piksel) and Graham Robinson (Veezy).

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ABOUT BRIGHTCOVE

Brightcove Inc. (NASDAQ:BCOV) is the leading global provider of powerful cloud solutions for delivering and monetising video across connected devices. The company offers a full suite of products and services that reduce the cost and complexity associated with publishing, distributing, measuring and monetizing video across devices. Brightcove has thousands of customers in over 70 countries that rely on the company's cloud solutions to successfully publish high-quality video experiences to audiences everywhere.

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