

Robotics in focus

The ultimate guide to robotic camera solutions

ROSS



Contents

Introduction

“They say change is the only constant we can rely on. And there are few industries where this is more evident than TV and broadcast media. It’s a rapidly evolving sector, driven by advancing technologies and shifting viewing habits.

When you’re facing growing demands for immersive, multi-platform content — while balancing the need for cost-saving efficiencies — big questions need to be asked. What tech suits us best? How do we make sure our investments provide long-term value? Most importantly, how do we keep our audience invested in us?

This guide aims to answer those questions for you.”



A white, handwritten signature of Karen Walker, written in a cursive style.

Karen Walker

Vice President, Camera Motion Systems

Trends at a glance

The reality is it doesn't matter if you're part of a live events startup or a veteran broadcaster, industry trends and consumer behaviours will always impact business. To stay competitive, keeping your ear to the ground is crucial.



Diversification of media

The live broadcasting space is competing against increasing numbers of on-demand video services, along with the continual creation of new platforms. Budgets are therefore being spread thinner across all these production sources.



Consumer expectations

Consumers increasingly expect immersive broadcasts with enhanced features that create an improved viewing experience. As a result, TV has undergone huge innovation in the last five years alone, with high budget productions similar to film.



Content quality

Faced with an array of other innovative platforms also vying for audiences' time and attention — whether that's advertising, social media, or even content creators shooting at home — the stakes have never been higher. With so much content out there, quality must remain king.

Diversification of media



Global subscriptions to online video streaming services has reached approximately

\$1.8 billion

Exploding Topics

Diversification of media

Impact

There are multiple impacts here. Studio spaces are becoming smaller because they're priced at a premium. This in turn means production organizations must capitalize on the space they have to be as efficient and functional as possible. The result is a drive in demand for 360-degree angle cameras and more studios utilizing every wall for potential footage — finding flexibility in their space to capture all sorts of different content.

Restricted budgets have also made automation more attractive. From automatic camera operation to video editing, to post-production workflows, industry players are using automation to speed up a huge spectrum of activities. By automating smaller, less creative tasks, studios can save on their budgets to put towards activities that help them stay relevant.



The 360-degree camera market in the US is expected to reach **\$4.35 billion by 2029 in growth.**

[Mordor Intelligence](#)

“The media diets of viewers and listeners appear to be more diverse and fragmented than ever.”

[OFCOM](#)

Consumer expectations



Dan Clays, EMEA CEO of Omnicom Media Group, has predicted a **2% aggregate growth in TV spend in 2024**, against a 4% drop in linear TV.

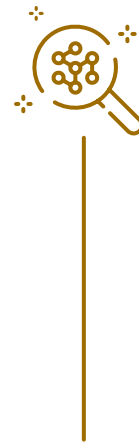
[Omnicom Media Group](#)

Consumer expectations

Impact

Organizations are competing to stand out through innovation. For broadcast studios, this has meant a demand for better set design, graphics, and the use of robotics and AI to achieve more engaging shots.

For some studios, the technology has become part of the aesthetic, showcasing the robotics and other innovation as part of the content. With this in mind, technology providers have aimed to make their equipment aesthetically pleasing, suitable for in front of the lens as well as behind it.



The global broadcast and media technology market is **projected to grow from \$41.4 billion in 2023 to \$51.4 billion by 2028** — driven by advancements in AI, robotics, and immersive technologies.

[Claight](#)

“Technology has always mattered — but now it’s a dominant factor across the industry — from streaming platforms to production to ads — to, well, just about everything.”

[Ros Atkins, BBC Analysis Editor, Reimagining the Future of Television at the Edinburgh TV Festival 2024](#)

Content quality



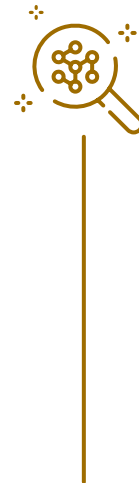
89% of consumers want to see more videos from brands, indicating a high demand for quality video content. [Hubspot](#)

Content quality

Impact

The number of video on-demand (VOD) services now available has soared to over 200. But with that comes a certain amount of inertia on consumers' part, due to the overwhelm in choice of content out there — and how heavily it is promoted.

As a result, we're starting to see more and more media companies and broadcasters adopt a "stream-first" mindset. By visualizing the user journey, studios are increasingly needing to put as much effort into the quality of the content preview as the content itself, with AI-led personalized images.



46%
of viewers say it's harder to find the content they want to watch because there are too many services available. [Nielsen](#)

“With more people watching content on a mobile device and scrolling through TikTok or Instagram ... this leads to [the need for] tighter integration between graphics and social media platforms.”

[Dave Gill, Chief Technology Officer at AE Live](#)

What technology is right for your brand?

Choosing your optimal solution

No two broadcasters or studios do things exactly the same. But the earlier you familiarize yourself with the systems that will give you the functionality you need, the better. From fast-paced newsrooms to live sports events, private in-house shoots, and houses of worship — it's not just about tech specs; it's about finding a system that works for your team, your workflow, and your ambitions.

The Configuration Station – Identifying the right tech for your brand all starts with asking the right questions.

Cost-effective
v innovation



Are you looking to achieve a specific set of shots with the most cost-effective solution? Or to explore the most cutting-edge technology to wow your audience — like cable-based systems that can capture jib-like shots?

Small scale
v large scale



While more space doesn't necessarily mean more equipment, scale does impact the technology ecosystem you might want to invest in. What size space are you working with? Is it a multi-use studio space or a large venue? The ceiling height of your space can also affect the placement of your technology.

Fixed
v dynamic shots



Is it essential for you to keep fixed angles for consistent shots? Or would you benefit from the flexibility to capture 360-degree dynamic angles within your environment? 360-degree camera systems allow you to capture every angle of your production space, including your camera set up.

Standard set v
virtual augmented and
extended reality set



Are you looking to introduce augmented or extended elements into your production to add flexibility to production?

Rent
v buy



Are you looking to invest in a permanent setup? Or do you want to limit things to a temporary rental? It's all about what you're setting out to achieve.

Building your robotics system

If you create content, chances are you're looking for ways to offer your viewers *more* — more compelling angles, more dynamic camera moves, and a more consistent style.

Ross' robotic camera systems give you the freedom of movement and imaging choice, while increasing efficiency and creative opportunities without compromise. Our systems are already in use at major broadcasters, houses of worship, live events, and other environments.

Here's how to build your ideal robotics system >



Step 1

Select your robotics



Step 2

Select your Pan/Tilt heads



Step 3

Select your control system

Step 1: Select your robotics



BlackBird

BlackBird pedestals offer Pan, Tilt, and Lift (PTL) with a BlackBird three-wheeled stationary base. The BlackBird base is the most stable robotic elevation platform in the industry.

> [Read more online](#)

FURIO

Furio, our Floor-Mounted Camera System, includes all rail-based products as well as the components that could make up a rail-based system. Inspired by creative goals, Ross' Furio offers silky-smooth on-air dolly shots on any floor, and spectacular jib-like shots. Furio supports a full-size prompter and talent monitor for fast, repeatable performance.

> [Read more online](#)

ARTIMO

Artimo is a next-generation, free-roaming robotics camera system. Previously unavailable in the broadcast robotics space, this cutting-edge system eliminates the constraints of traditional XY pedestals. It's a full-motion camera system that produces breath-taking beauty shots, and includes suspension, LiDar localization, and internal cable management.

> [Read more online](#)

CamBot

CamBot is our legacy free-roaming XY system. Simple and elegant, it comes with a unique two-wheel design that uses differential steering instead of casters for fast, accurate image targeting and analysis.

> [Read more online](#)

spidercam

The spidercam system is a suspended cable-based robot that enables operators to position and move a camera at/to any defined point above a sizeable area or set. The spidercam system is versatile enough that it can replace stationaries, jibs, rails, and steady-cams.

> [Read more online](#)

FURIO SkyDolly

Part of the Furio product line, the SkyDolly is a ceiling-mounted rail system. This solution provides spectacular overhead beauty shots and is unmatched in safety and stability. Giving set designers full flexibility and it's perfect for VR/AR tracking.

> [Read more online](#)

Not ready to invest in a full robotics system?

Remember, this is only a guide — it's always best to talk to us so we can help you define your needs.

Step 2: Select your Pan/Tilt heads

Pan/Tilt heads are included on all robotic systems but can also be purchased separately for independent control. There are several options based on payload and tracking capabilities. These can be mounted on an existing ped, tripod, ceilings, or walls.

We have a wide range of models suitable for just about any application. From extremely large payloads of up to 90 kgs (200 lbs) to ultra compact heads for studios where space is at a premium.



X300/X350

Both have an ultra-compact footprint, all-metal construction, and a payload of 6.8 kg (15 lb). You can rely on X300 for great performance, or upgrade to X350 which includes a touchscreen interface, camera connectivity options, and virtual tracking data.

> [Read more about the full range online](#)



520PT

520PT is a compact head that has the highest payload capacity in its class at 32 kgs (70 lbs) to support a mid-size teleprompter and ENG or box camera and lens.



VR600/600PT

600 series head is the perfect studio workhorse, accommodating payloads of up to 57 kgs (125 lbs). This makes it ideally suited for today's typical studio camera configurations, consisting of an ENG or box camera and lens, with full-sized prompter and talent monitor.



700PT

700PT has the highest payload in the industry at 90 kgs (200 lbs). This makes it the only head capable of supporting the largest studio cameras and lenses, as well as prompters, monitors, and all other camera rig accessories. 700PT is truly the payload king when it comes to robotic PT heads.

Remember, this is only a guide — it's always best to talk to us so we can help you define your needs.

Step 3: Select your control system



DashBoard PT Plug-ins

A cost-effective approach for customers buying heads alone. Ross DashBoard is a free software that enables you to monitor, control, and program your production technologies.

> [Read more online](#)

SmartShell

For more advanced control, SmartShell is the mandatory control system that you will need to operate our robotics (outside of independent PT Head purchases). It comes with a joystick and touchscreen as well as a matrix view to organize your categories.

> [Read more online](#)

Vision[Ai]ry

An optional addition on top of SmartShell, Vision[Ai]ry offers AI-based facial and body tracking capabilities. This provides a hands-free workflow while using robust tracking and natural movement. You can also take advantage of framing templates that are linked to presets to save yourself time.

> [Read more online](#)

Remember, this is only a guide — it's still best to talk to us so we can help you define your needs.

Real-world examples

[Read the full case study >](#)

Sky Deutschland

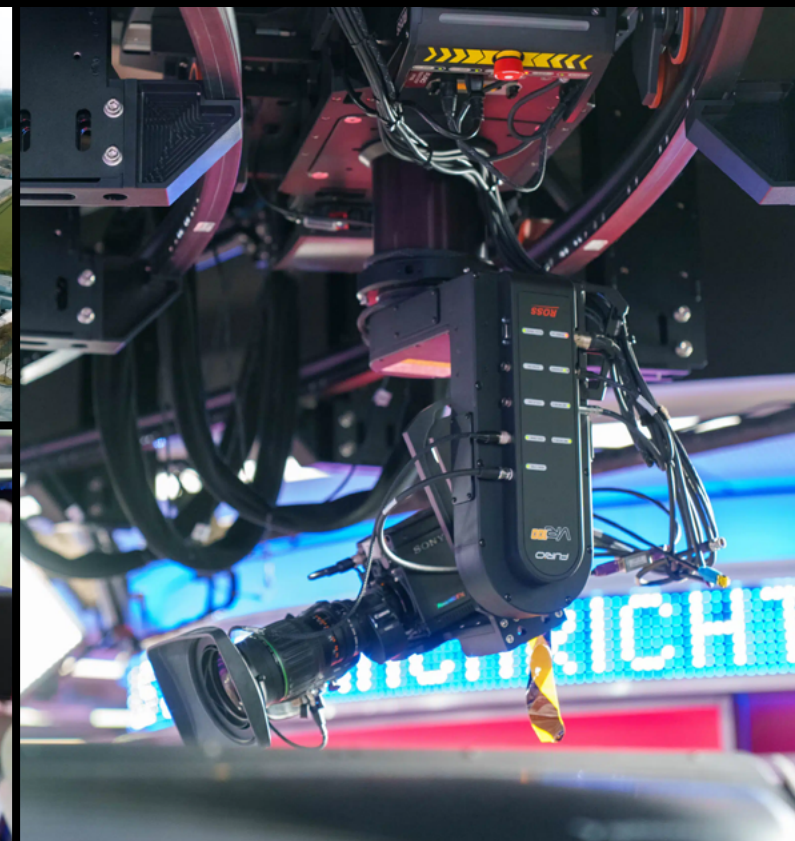
Field of play: Major broadcaster of movies, entertainment programs, and live sports

Goal

Sky was looking to retain its signature on-air look while improving its on-screen storytelling — without needing additional resources or studio space.

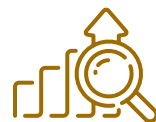
Tech

The team selected the Ross CamBot (XY Pedestals), the Furio SkyDolly, spidercam, and the CamBot BlackBird (Pan/Tilt/Lift). All solutions were tailored to fit their needs.



Sky Deutschland

Outcome



Despite having a compact production team, these solutions offered Sky Deutschland a comprehensive toolkit to enhance its live sports news broadcasts via:

- Flexible camera positioning and on-air movement
- Optimal use of studio floor space due to rail-based technology hung from the ceiling
- Boosted broadcasting precision with accuracy of shots and production consistency

Now, the team can produce and automate dynamic shots that set them apart from competitors.



“The team at Ross Video has provided us with innovative and reliable technology solutions that help us create and deliver new possibilities in our studio setup. That’s why we always choose best-in-class partners.”

Alessandro Reitano
SVP Sports Production
Chairman Sports

Times Square Church

Field of play: House of worship for an interdenominational congregation in the New York area and beyond

Goal

Times Square Church found itself in the unique situation of moving to New York City and trying to build a community during the pandemic. Unable to invite people into its building, the church leadership team needed to bring church to the people. A technology solution which, when in-person attendance was once again allowed, would still be beneficial.

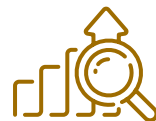
Tech

Following several meetings, it chose the Ross Furio robotic camera system, the software-defined Ultrix Carbonite hyperconverged router and video platform, and the DashBoard facility control system.



Times Square Church

Outcome



Our prescribed solution provided Times Square Church with equipment that met all of its challenges. Our mix of tech:

- Offers an intuitive, user-friendly experience
- Provides track-based, smooth, and accurate cinematographic camera moves
- Includes full room coverage while staying out of viewers' line of sight
- Dramatically improves the visual experience for home viewers

The church leadership team continues to reach, maintain, and build their community outside the physical walls of the building with compelling imagery and production.

“As much as we’ve put into upgrading the technology and getting to a place to reach people through the internet over the last two years, we believe that this has set us up to reach even more people over the next ten years.”

Sallie Guillory
Creative Director
Times Square Church

RecordTV Rio

Field of play: Brazilian media company with a production load of 8+ hours of live video content daily

Goal

RecordTV Rio — a media company spread across three studios — was looking to reduce out-of-focus shots, incorrect camera movements, and erratic zooming. All while empowering its team with more creative options to optimize production quality and efficiency.

Tech

After an exceptional experience with their two existing Carbonite switchers, the team turned to Ross Video for help once again. And decided to invest in CamBot robotic pedestals from Ross.



RecordTV Rio

Outcome



The introduction of the CamBots marks a significant improvement in RecordTV Rio's studio output, including:

- Industry-leading floor repeatability
- Fast and easy targeting with automated movement
- Long-term, low-maintenance operation they can rely on
- An 80% reduction in labor costs
- Maximum control over video and lighting with enhanced creative capabilities

The partnership with Ross has added significant value to RecordTV Rio's business, both in terms of profit and production quality.



“The Ross Video team has done an excellent job in implementing and supporting these innovative CamBot solutions, helping us to improve our business without generating additional expenses.”

Júlio Abreu
Operations Director
RecordTV Rio

Ross Video: The partner to make it real™

We've worked hard to build a solid reputation. One that's based on trust.

In fact, over 10,000 global customers trust Ross Video to power their live productions. But while technology makes it possible, people make it great — and our people are driven by the Ross Code of Ethics.

All of our employees learn this code — it forms the basis of how we act with our partners and customers. So, it's what you should expect whenever you reach out to us. First and foremost, we're here to turn your ideas, plans, and strategies into reality.



Awarded to Artimo
— Ross Video's
revolutionary
full-motion camera
robotics system

Quality kit, made to last

Our ethics

Quality kit, made to last.

We will not ship crap.

We are on your team.

We will do our best to understand our customer's requirements and always act in our customer's best interest. We will be great to work with and, in times of crisis, we will go above and beyond to find a way to fix the problem.

We are the good guys.

We will keep our promises, treat others with respect and help other friendly companies.



Our promise

The best dynamic shot technology on the market.

We even do in-house R&D, compliance, and product verification testing to prove it's the best technology around.

Every single robot has FREE 24/7 technical support.

Whether you get it from us or second-hand online.

We do the right thing by you.

If we 'end-of-life' a product, we promise to carry parts and support that product for at least 7 years.

What our customers say



“The team at Ross Video has provided us with innovative and reliable technology solutions which have been key to the success of this important project. By helping us to create and deliver new possibilities in our studio setup, we can differentiate ourselves in this highly competitive market. That’s why we always choose best-in-class partners.”

Alessandro Reitano
SVP Sports Production
Chairman Sports



“Designing an esports production turn-key solution comes with many challenges. What we discovered worked really well was engaging with the Ross Video team to provide us with on-site training, so we had enough hands-on time with the tech to come up with solutions that are unique to our space.”

Gin Rai
Head of Esports
Confetti Institute of Creative Technologies



“The Ross Video team has done an excellent job in implementing and supporting the solution, helping us to improve our business without generating additional expenses.”

Júlio Abreu
Operations Director, RecordTV Rio

The power to zoom ahead

Whether you're navigating your first robotics setup or looking to level up, we're all about supporting you to get the best results in the easiest way possible — using the right robotics technology for the right environment.

Check out the technology in more detail. >

Contact Us – [click here](#)

Questions? Get in touch with one of our experts to discuss your robotics needs.

Ross Video powers live video productions for billions of global viewers daily with the industry's widest range of high-impact, high-efficiency solutions and services. Ross makes it easy to create compelling news, weather, and sports broadcasts, engaging content for sports stadium screens, entertainment shows and rock concerts, educational institutions, legislative assemblies, corporate presentations, and inspiring content for houses of worship.