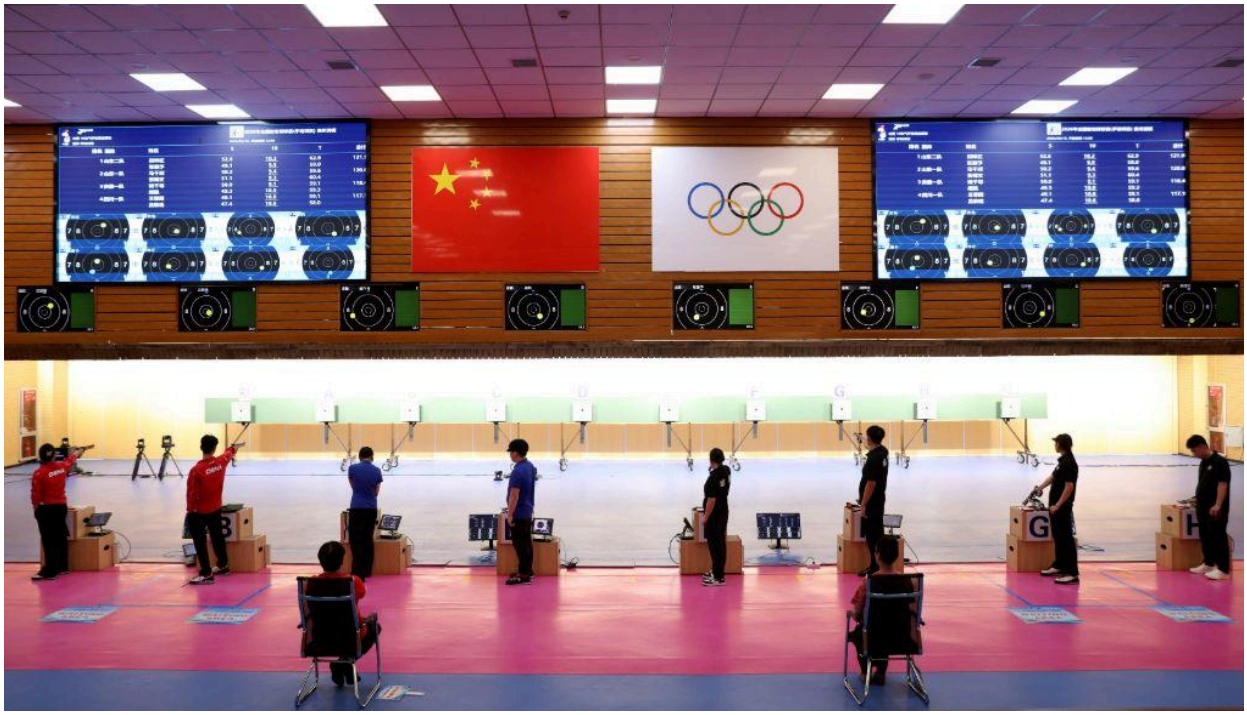
Steady on Target: Telycam PTZ Coverage at the National Pistol Championship

From June 13 to 20, 2026, the National Shooting Championship (Pistol Category) was held at the Qingzhen Sports Training Base in Guizhou. The tournament brought together 396 athletes from 30 provincial delegations, competing across men's and women's 10m air pistol, the 10m air pistol mixed team event, men's 25m rapid fire pistol, women's 25m pistol, and men's 50m pistol — all scored on the ISSF-certified SIUS electronic laser system, with draws, scoring, and results processed through the official SiusRank software. In this sport, precision is the standard, not the exception.



The Challenge

Unlike field or track events, shooting unfolds in fractions of a second and within a tightly controlled environment — a combination that places unusual demands on both equipment and on-site coordination. The production team identified four core challenges going into the event:

01. Instantaneous Action

A shooter's aim, trigger pull, and point of impact happen almost instantaneously. At range, traditional manual focus and framing struggle to keep pace, risking missed footage of the exact moments that matter most.

02. Multi-Angle Complexity

A single shooting event calls for simultaneous coverage of shooter close-ups, profile stance, spectator reaction, and full-range context — coverage that traditionally requires a large camera crew to achieve.

03. Restricted Access

Shooting ranges are high-security environments by design, and personnel cannot freely enter the core competition area to adjust or reposition cameras — making remote, hands-off operation a hard requirement rather than a convenience.

04. Broadcast Standards

National-level coverage and archival footage must meet broadcast standards for resolution, long-range optical clarity, operational stability, and color accuracy.

To solve this, the technical team deployed a six-camera remote PTZ network — two Telycam Explore cameras and four Telycam Vision+ 4KN cameras — with every camera controlled entirely from outside the restricted zone. Notably, the entire setup ran with roughly half the camera count the team would typically deploy for an event of this scale, a reduction made possible by how much ground each PTZ position could cover on its own.

Solution

The technical team ultimately deployed six Telycam PTZ cameras — two Explore units and four Vision+ 4KN — positioned at fixed locations around the range, including positions near the firing line and surrounding observation areas.

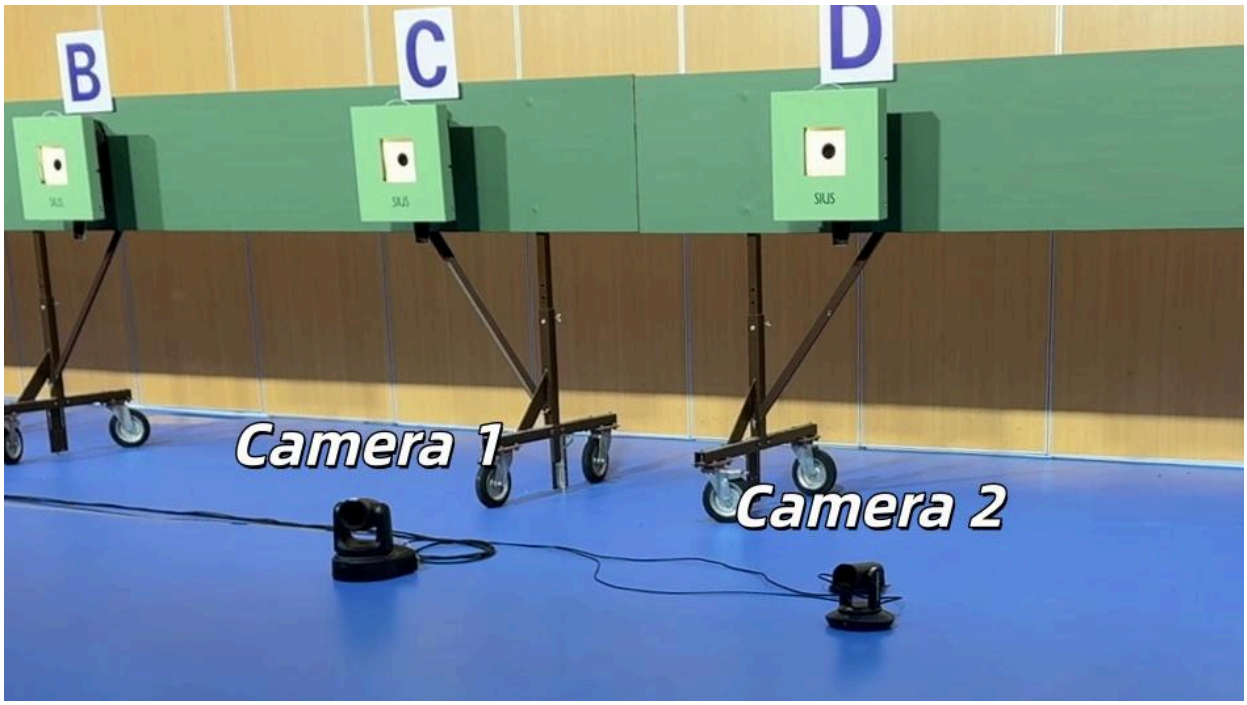
All cameras were operated entirely from the control room, with no requirement for on-site adjustment or repositioning once deployment was completed. This allowed the entire system to remain stable throughout both competition phases.

The relatively low camera count for an event of this scale was made possible by the extended optical zoom capabilities of the PTZ systems. The Explore

provides up to 20× optical zoom, while the Vision+ 4KN reaches up to 30×, enabling clear capture of athlete expressions, shooting posture, and target impact details even from long distances.

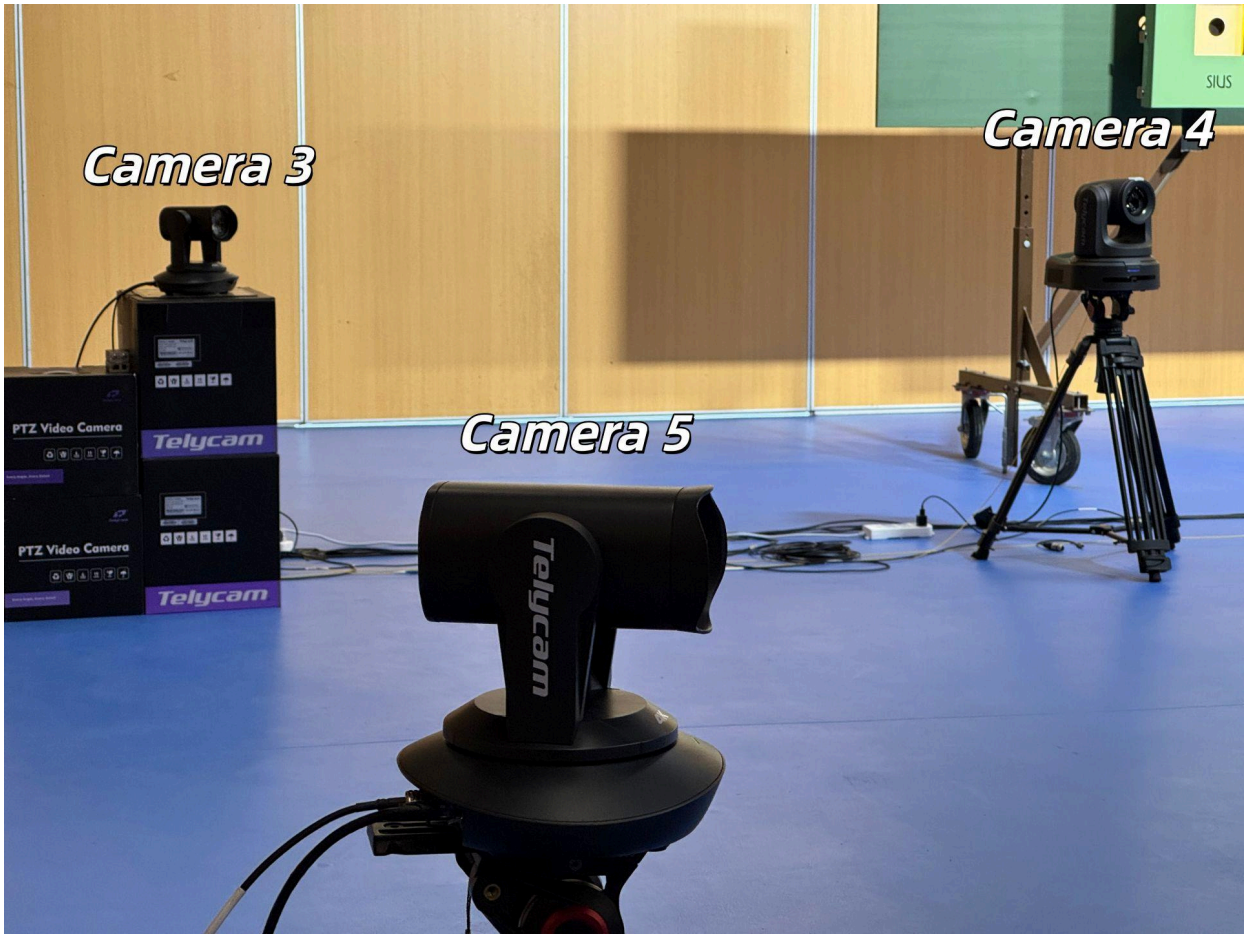
The Camera Layout

The same six-camera configuration was used for both the 10m and 25m pistol events, with only minor adjustments in camera orientation to suit the differences between the two disciplines, starting with the layout for the Men's 10m Air Pistol Final.



Camera 1(Explore): Positioned in front of Target Stations C/D, angled to capture shooters at Stations E through H.

Camera 2(Vision+ 4KN): Positioned alongside Camera 1 on the C/D line, providing a second angle on the same group of shooters.



Camera 3(Explore): Mounted on a tripod near the left side of the R1 reference line, framing shooters at Stations A through D.

Camera 4(Vision+ 4KN): Also mounted on a tripod near R1, positioned for a broader vantage over the full range.

Camera 5(Vision+ 4KN): Positioned along the R1 side, capturing profile shots of shooters during their stance and shot execution.



Camera 6(Vision+ 4KN): Positioned behind and to the side of the firing line, alternating between wide range coverage and shots of the spectator stands.

The 25m Adjustment

The transition from the 10m to the 25m pistol events significantly increased the shooting distance and overall throw length, testing the flexibility of the PTZ setup.

Instead of repositioning hardware or deploying on-site adjustments, the team performed a single remote reorientation of Camera 2 (Vision+ 4KN), rotating it from the C/D shooting lanes to the target boards.

Supported by the system's long optical reach — 20x zoom on the

Explore units and 30x on the Vision+ 4KN — the camera maintained stable, high-clarity framing at extended distance, providing a visual complement to the SIUS scoring system.

The remaining cameras stayed unchanged, confirming the stability and adaptability of the overall network design.



System Connectivity and Control Workflow

The production relied on a tightly integrated hybrid signal architecture, delivering broadcast-grade output while keeping on-site cabling and deployment complexity to a minimum.

On the video side, the Explore cameras ran SFP fiber links back to the control room, ensuring reliable, high-quality transmission over distance. The Vision+ 4KN cameras took a more direct route, outputting uncompressed video over SDI straight into the production switching system for low-latency, high-quality delivery.

On power and control, all six cameras ran on a unified PoE++ supply, consolidating power and network communication onto a single cable per unit and removing the need for separate power runs. Remote PTZ control and WebUI management ran over the IP network, allowing operators to manage every camera and adjust every parameter from the control room — keeping the system efficient and tidy even across a complex, multi-camera deployment.

In the control room, production ran on a hybrid hardware-and-software workflow:



Blackmagic Design

ATEM 1 M/E Advanced Panel 20 — handled real-time signal switching and live production control

AVMATRIX PKC4000 IP controller — dedicated to remote PTZ control and preset recall

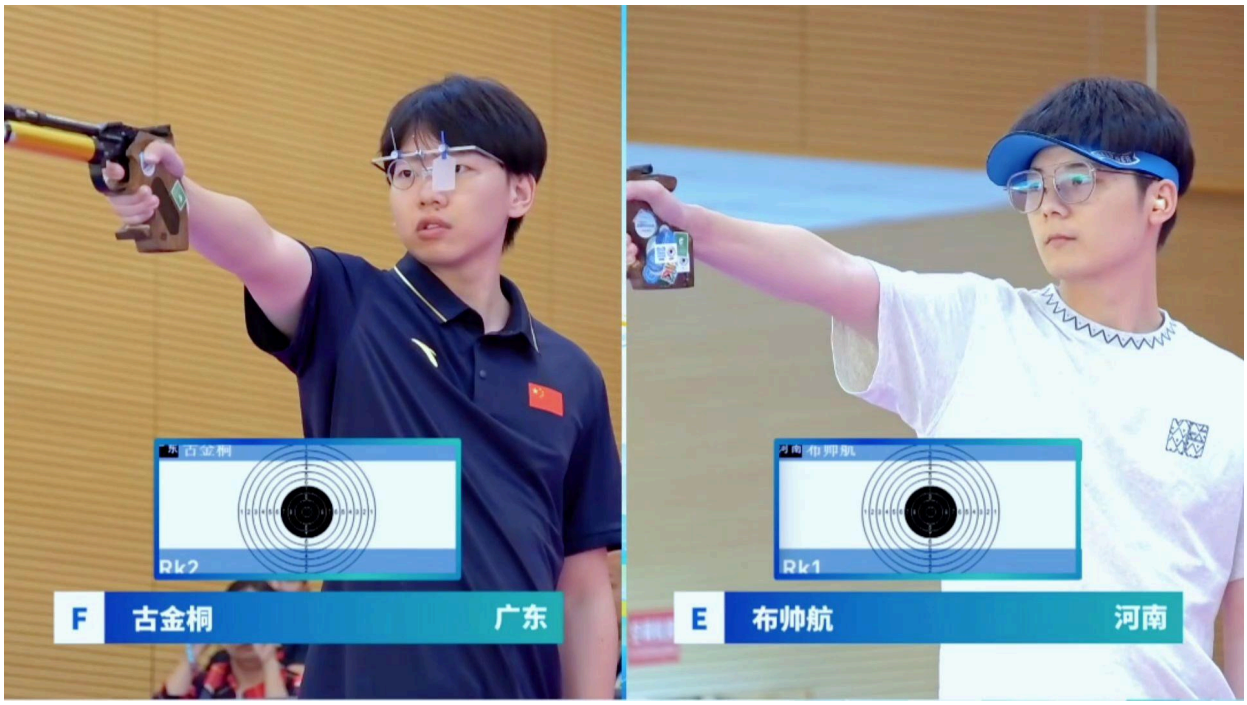
vMix — served as a complementary production platform, managing multi-camera signals and handling the graphics overlay layer — athlete name bars, live scoring, and match information — composited and synced directly with the live feed

Final Results: Full Coverage, No Operational Constraints

Across both the 10m and 25m pistol events, the six-camera PTZ system delivered complete broadcast coverage — including shooter close-ups, target results, full-range context, and audience reactions — without requiring any operator access to the firing line.

The same system carried over seamlessly between disciplines with no equipment rebuild, and only a single camera required reorientation to accommodate the 25m configuration. Overall, the deployment remained compact and efficient, achieving full coverage with significantly fewer cameras than a traditional fixed setup.

With fiber-based video transmission, SDI output, and PoE-powered connectivity, the workflow remained stable and streamlined throughout the event. This allowed the production team to focus on monitoring and live coordination, while the SIUS scoring system ensured synchronized and reliable competition data for both judging and broadcast output.



What the Team Said

"In shooting, you don't get to walk over and adjust a camera mid-match. Every position has to be right before the first shot, and it has to stay right for the rest of the competition. What surprised me most was how little hardware we actually needed — about half the cameras we'd normally bring to an event this size. Six cameras, fully remote, and we never had to put anyone where the rules said no one could stand."

— Song Jie, Broadcast Technical Lead, 2026 National Shooting Championship (Pistol)

Beyond the Range

Most live sports broadcasts come down to camera count and operator skill. Shooting takes the operator out of the equation entirely. The answer isn't more people on the floor — it's a camera network precise enough, and remote control reliable enough, that no one needs to be there at all.

As sports production continues to evolve, the traditional model of large crews and full-time manual operation is giving way to something leaner: remote-first, PTZ-driven, and built around small, highly efficient teams.

The 2026 National Shooting Championship put that shift to the test — and showed what Telycam's PTZ systems can deliver in environments defined by precision, restricted access, and zero tolerance for error. Looking ahead, Telycam will continue investing in sports broadcasting, live production, and professional imaging, building smarter, more reliable visual solutions for the events that demand them most.