NTT DATA

Taiwan | Public sector

AI-powered sports training platform to position Taiwan as a leader in sports technology innovation

TISS 國家運動科學中心
Taiwan Institute of Sports Science

Client profile

The Taiwan Institute of Sports Science (TISS) advances sports science research and its practical applications to boost the international competitiveness of Taiwanese athletes and support the sports industry. TISS collaborates with domestic and international institutions to integrate scientific research into athletic training, fostering a systematic and science-based approach to sports development in Taiwan.

The Taiwan Institute of Sports Science (TISS) has transformed elite athlete training with an AI-powered sports platform. Developed in partnership with NTT DATA, the solution leverages edge computing, high-speed cameras, NVIDIA GPUs and advanced analytics to transform video into actionable insights — helping athletes optimize performance and reduce injury risk.

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NTT DATA's expertise in digital transformation and integration of specialized technologies helped us successfully introduce an AI training platform that elevates athlete performance by enabling them to review and monitor their actions."

Chia-Chih Lin, Deputy CEO, TISS

Real-time motion analysis for elite athletes

Optimized performance and reduced injury risk for athletes

Advanced Taiwan's sports technology ecosystem

Business need

Enhance athlete performance with advanced sport science

As Taiwan's national center for sports-science research and application, TISS provides scientific support for the training and competition needs of elite athletes. Its work spans performance assessment, sports-science services and technology-driven research that helps athletes prepare more effectively for major international events.

TISS wanted to combine sports science with AI to help national athletes train more efficiently, recover more effectively and compete with greater confidence. Coaches and athletes needed a solution that could analyze complex body movements, provide real-time insights and support data-driven training strategies to improve performance and reduce injury risk. An AI training platform was essential to provide these insights, improve training efficiency and position Taiwan as a leader in sports-technology innovation.

To achieve this, they required a partner with global sports-technology experience and the capability to integrate hardware, AI analytics and secure data transmission. NTT DATA's deep expertise in digital transformation and sports event technology made it the ideal choice.

Solution

Turning video data into predictive, actionable insights

TISS partnered with NTT DATA to turn its vision of leveraging AI for elite athlete development into a reality. We delivered a fully integrated AI training platform that transforms video data into actionable insights, enabling real-time motion analysis and performance monitoring.

Our end-to-end AI platform combined edge computing architecture, high-speed imaging, secure data transmission and predictive analytics. As part of our service, we provided system integration, project management and deployment.

We began with a detailed requirements analysis, followed by designing a scalable architecture and integrating hardware and software components. Our team achieved secure connectivity, seamless application programming interface (API) integration and reliable data storage. Rigorous testing with athletes validated the platform's effectiveness before the full rollout.

Collaboration was key. Through consultative workshops, design sessions and onsite implementation, we worked closely with TISS to align technology with its mission of advancing sports science and athlete development, emphasizing transparency and knowledge sharing every step of the way.

Outcomes

Real-time AI insights drive performance, safety and global competitiveness

TISS has gained a future-ready AI platform that enhances athlete performance, streamlines operations and positions Taiwan as a global leader in sports technology innovation.

This achievement was made possible through NTT DATA's global experience in digitalizing major sports events — including the Tokyo Olympics and Major League Baseball — combined with proven expertise in integrating complex technologies.

Enhanced athlete performance

The AI-powered platform enables real-time motion analysis and predictive insights, helping athletes and coaches refine techniques, improve training efficiency and reduce injury risks. This data-driven approach has already contributed to better results in international competitions.

Operational efficiency and integration

By consolidating imaging, analytics and secure data transmission into one platform, TISS now has a streamlined system that supports faster decision-making and more effective training strategies.

Future-ready foundation

The platform sets TISS up for long-term success by creating a scalable architecture that can incorporate advanced AI models and additional sports disciplines, positioning Taiwan as a leader in sports technology innovation and strengthening its competitiveness on the global stage.

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TISS's mission is to leverage sports science to aid national athletes by improving their training, managing their health and providing superior medical assistance. We are committed to advancing this AI platform to bolster support for sports science within Taiwan, ultimately empowering Taiwanese athletes to achieve unparalleled success on the global stage."

Chia-Chih Lin, Deputy CEO, TISS

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