

Sports Display Solutions

Setting the LED Display Standard for Global Premier Events

"Centered on LED display, with an open ecosystem, not a mega-integrator — empowering every venue with world-class visual experiences"

— Absen Sports + Integrated Solutions Division



CONTENTS & SUMMARY

Contents / Executive Summary

Redefining Sports Venue Display Systems, Ushering in a New Era of Immersive Viewing

01 Three Transformative Forces

Certification Access · Fan Experience · Commercial Value

02 Five Core Dimensions

Pixel Quality · Reliability · Compliance · Openness · Value

03 Rabat Morocco - Africa Largest Ring

2025 Rabat Morocco · 2,570m² Panoramic Ring Display

04 Multi-Scene · Product Matrix

Hockey / Esports / Aquatics · Three-Tier Configuration

\$2.45B

Global Venue LED Market Size

65,000+

Reference Cases

\$550K+

IDES Energy Savings 10-Year Net

Source: IDES dual-voltage dynamic energy saving technology. Calculation: 600m² centre-hung × 350W/m² avg × 4,000hr/yr × \$0.14/kWh × 50% savings × 10yr. Assumptions: avg power ≤350W/m² (A25 spec), annual operation 4,000hr, electricity rate \$0.14/kWh. Actual savings vary by venue size, runtime, and local rates.

EXECUTIVE SUMMARY

Technology Moat · Landmark Leadership · Global Service

True Pixel Ultimate Quality · True Reliability Military-Grade · True Compliance International Standards · True Value Low TCO

Three Transformative Forces Reshaping Sports Venue LED Displays

FORCE 01

International Event Certification: From "Bonus Feature" to "Mandatory Entry Barrier"

LED products without world-class sports tournament certification have already lost access to global premier event supply chains



International Football Championships

Professional Football LED Display Considerations

Stable global live broadcasting, camera compatibility, all-weather protection, high-impact resistance, and image latency control

International Basketball Championships

Basketball Venue LED Display Considerations

Broadcast-grade color reproduction, anti-glare coating for strong ambient light, protective design, and intelligent remote operation and maintenance.

European Federation 2024 Technical Standard

Professional European Football Venue Display Considerations

Sustainability, Energy Efficiency, Broadcast Readiness, Operational Reliability, Smart Operation & Maintenance

Source: UEFA Football Sustainability Strategy 2030, UEFA Criteria

Key Insight: International sports certification is no longer a "bonus feature" — it is a "mandatory green card" for participating in global sports venue development .

76% of Fans Rank Digital Audiovisual Experience as Decisive Factor for Ticket Repurchase

Multiple authoritative global sports market studies indicate that next-generation digital audiovisual experiences have become a decisive anchor for up to 76% of fans when making repeat ticket purchase decisions. This digital resonance is even stronger among Gen Z, skyrocketing to 89%. In an era where home viewing experiences present fierce competition, nearly 70% (68%) of live attendees explicitly state their willingness to pay a premium for a more immersive, ultra-high-definition visual hardware experience.

NBA Utah Jazz · Delta Center · Centre Hard Display · Jordan Utah Jazz Home Arena

76%

Repeat Ticket Purchase Decision Anchor

89%

Gen Z Digital Engagement Resonance

68%

Willing to Pay Premium for Immersive AV

Home Viewing Experience

- 4K HDR crystalline clarity
- Real-time multi-stream data
- Cross-platform social media

Live Venue Pain Points

- Legacy displays — visible pixel grain
- Information blind spots — no data
- Passive spectating — zero engagement

FORCE 03

High-Definition LED Perimeter Displays: The Highest-ROI Monetization Infrastructure for Venues

Broadcast-Grade Visual Fidelity

High-brightness, high-refresh-rate professional displays ensure 100% accurate brand color reproduction in broadcast cameras

Advertising Value Surge

Perimeter LED broadcast exposure CPM rises 30%-50% — the highest-ROI core asset in venue operations

Core Insight: Premium LED display systems have evolved from traditional information boards into core infrastructure that drives venue retention and commercial monetization.

Redefining the "Next-Gen Sports Venue Display System"

D I M E N S I O N 0 1

True Pixel— Breaking Physical Pixel Precision Limits

7,680Hz to 15,000Hz Refresh Rate · DCI-P3 Cinematic Color Gamut · 16-bit High-Depth Grayscale

Ultra-High Refresh	7,680Hz — 15,000Hz	Broadcast-grade super slow-motion, zero scan lines	flicker-free, artifact-free
Cinematic Color Gamut	Beyond sRGB base gamut → DCI-P3 Wide Gamut + HDR10 · Precisely restores global brand VI colors		
High-Bit Grayscale	16 bit · 65,536-Level Grayscale Control	Noise-free dark scenes · No highlight color clipping	
Ultimate Brightness	Outdoor 7,000-10,000 nits	Sponsor imagery remains saturated and clear under direct midday sunlight	
Dynamic Contrast	Over 6,000:1 · Ultimate tension between deep true black and brilliant highlights		

D I M E N S I O N 0 2

True Reliability — Highly Fault-Tolerant System-Level Redundancy

Dual power hot standby + Triple signal hot standby · Imperceptible failover · Full maintenance access

Dual Power Hot Standby

Dual independent grid power inputs with intelligent power distribution. Single-circuit failure triggers instantaneous seamless 100% load transfer — zero downtime, zero flicker

Triple Signal Hot Standby

"Primary + Backup + Hot Standby" triple-link real-time sync, <100ms auto-switchover on fault — imperceptible to human eye

Dual-Channel Full Maintenance Access

Live hot-swap maintenance via front and rear channels. ACE engineers replace any faulty module in under 60 seconds — zero event interruption

D I M E N S I O N 0 3

True Openness — Open Ecosystem

Zero vendor lock-in · 100% compatible with universal standards · Integrates with five subsystems

Open Ecosystem · Refuse Full-Stack Lock-in

- 100% compatible with universal standard protocols
- Returns full upgrade autonomy to venue operators
- Focused on LED display core · not a mega-integrator

Compatible with Five Subsystems

- Timing & Scoring System
- Professional Sound Reinforcement
- Broadcast Production System
- Venue Lighting System
- Central Control System

Grand Slam Compliance × Full Lifecycle Value

DIMENSION 04

True Compliance — Grand Slam International Event Standards

100% aligned with and exceeding world-class tournament technical specifications

FULL SPECTRUM · 2018-2030

The Grand Slam Narrative: From the World's Premier Football Tournament to the Flagship Global Multi-Sport Event

Absen is a Chinese LED display company with successful delivery records across world-class sports tournament

2018

Russia — International Football Championship

3 venues · Scoreboard · Entrance LED

Display · Absen's World Cup Debut

✓ Delivered

2022

Middle East — International Football Championship

8 venues · 2,000m² + A99 ·

Full stadium coverage

✓ Delivered

2023

Australia&New

Zealand 10 venues · 2,000

m² +

A99 · Full stadium

✓ Delivered

2024

Flagship Global Multi-Sport Event in Paris

50+ large displays · Multi-Series

✓ Delivered

2024

Professional Basketball All-Star

Event 600m² LED Floor Display

PL V2 · Industry First

✓ Delivered

2026

2026 North America — International Football Championship

Centre-Hung A Series ·

✓ Delivered

2030

International Football Championship

Prince Moulay Stadium 2,570m²

A25 · Dome Ring Display

◆ In Progress

Absen has built extensive delivery experience across international football championships, global multi-sport games, and top-tier professional basketball league venues concurrently. This achievement not only validates the exceptional reliability of Absen products, but also confirms that the company has passed the world's most stringent event certification systems.



DIMENSION 05

True Value — Optimal Lifecycle Value

Exclusive IDES Dual-Voltage Dynamic Energy Saving · \$200K+ net electricity savings over 5 years · 10-Year Full Unit Warranty

Source: IDES measured energy saving ratio: 50% vs conventional fixed-voltage drivers. TÜV Carbon Footprint Certified [Official: A25 Series].

\$200K+

5-Year Net Electricity Savings

10 Years

Full Unit Extended Warranty

<1

kWh/m2 Daily Consumption

ABSOLUTE STRENGTH

Absen Global Strength

1.17M

ft² Smart Manufacturing Base

10.8M

ft² Annual Production Capacity

165

Countries & Regions

5,400+

ACE Engineers

14

Global Spare Parts Warehouses

40

Regional Service Centers

CHAPTER 04 · FLAGSHIP CASE

Prince Moulay Abdellah—Africa's Largest Panoramic Ring

Rabat, Morocco · 68,000 Seats · National Stadium
· Irregular Dome—Engineering Marvel

2570m²

Africa Largest Ring Display

10,000nits

Peak Stable Brightness

≥15,000Hz

Broadcast-Grade Refresh Rate

Africa's Largest Single-Venue LED Ring

A1025 LED ring seamlessly wraps the irregular dome in 360° — all 68,000 seats enjoy a perfect viewing angle

IDES Energy Savings — Proven Impact

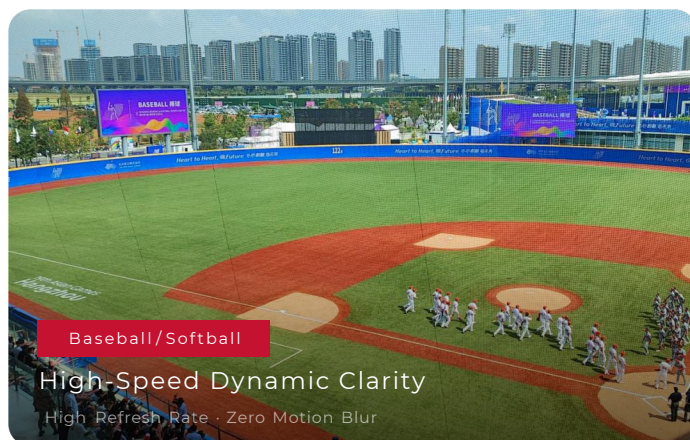
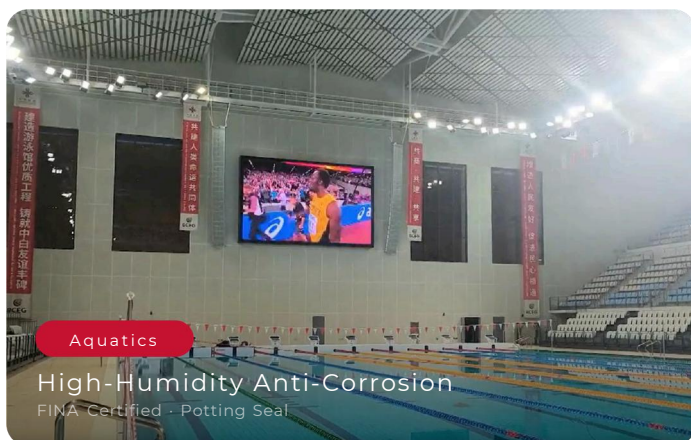
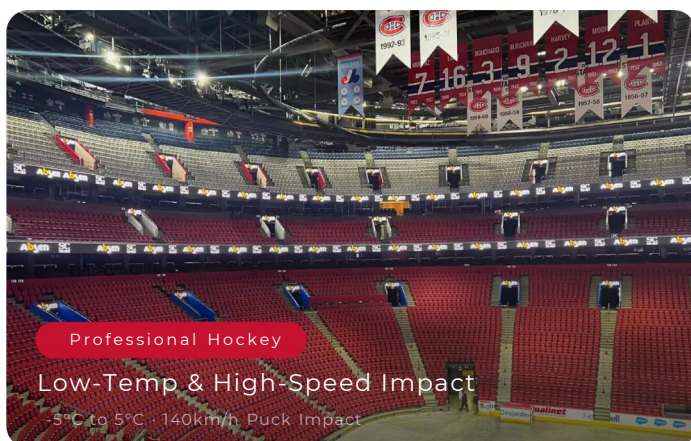
IDES dual-voltage technology delivers over \$200K in net electricity savings for the venue over 5 years

Designed to International Federation Standards

Fully meets stringent technical specifications — designated LED display supplier for a 2030 global championship host venue

Multi-Scene Venue Application Capability

Professional Ice Hockey · Premier Esports · Aquatics · Full-Scene Sports & Cultural Centers



Bell Centre Montréal · LoL Worlds Finals · Belarus Aquatics Centre · Hangzhou Asian Games Baseball

DUAL GUARANTEE

Zero-Failure Dual Guarantee System

Extreme Physical Protection Engineering × Seamless Dual-Backup Redundancy Architecture

IDES Energy Precision × AbsenCare Service

IDES · Dual-Voltage Dynamic Energy Saving 10-Year TCO Analysis: 40%-50% Energy Savings

Conventional Solution

Annual electricity: \$110K-\$170K
5-Year cumulative: \$550K-\$830K
10-Year full lifecycle: \$1.1M-\$1.7M

Absen IDES Solution

Annual electricity: \$55K-\$85K (50% Reduction)
5-Year cumulative: \$280K-\$430K
10-Year full lifecycle: \$550K-\$830K

Owner's Lifetime Net Savings: Over \$550K in 10 Years

ULTIMATE EFFICIENCY: <1KWH/M² DAILY · <28W/M² STANDBY

Calculation basis: 500-700m² LED display area × 350W/m² avg power × 4,000hr/yr operation × \$0.14/kWh × 50% IDES savings. Constraints: Actual savings vary by (1) venue annual runtime (3,000-5,000hr), (2) local commercial electricity rates (\$0.08-\$0.25/kWh), (3) display content brightness profile (sports ≈60% mid/low brightness → IDES engages). Data

source: A25 Series Product Specification [Official]. TÜV Carbon Footprint Certified.

OTC · Advertiser Decision Framework

Opportunity To Cost Ratio — Every Dollar Justified

OTC Ratio = Opportunity Value / Total Cost of Ownership

High Brightness & Contrast

10,000nits + 10,000:1 extreme contrast delivers premium brand visibility. 100% accurate brand color reproduction in broadcast — significantly higher CPM and reach premium.

112W/m² Ultra-Low Power

A25 IDES dual-voltage dynamic energy saving — typical power consumption only 112W/m². 40%+ lower than industry average (250-300W/m²). Electricity savings flow directly to advertiser net profit.

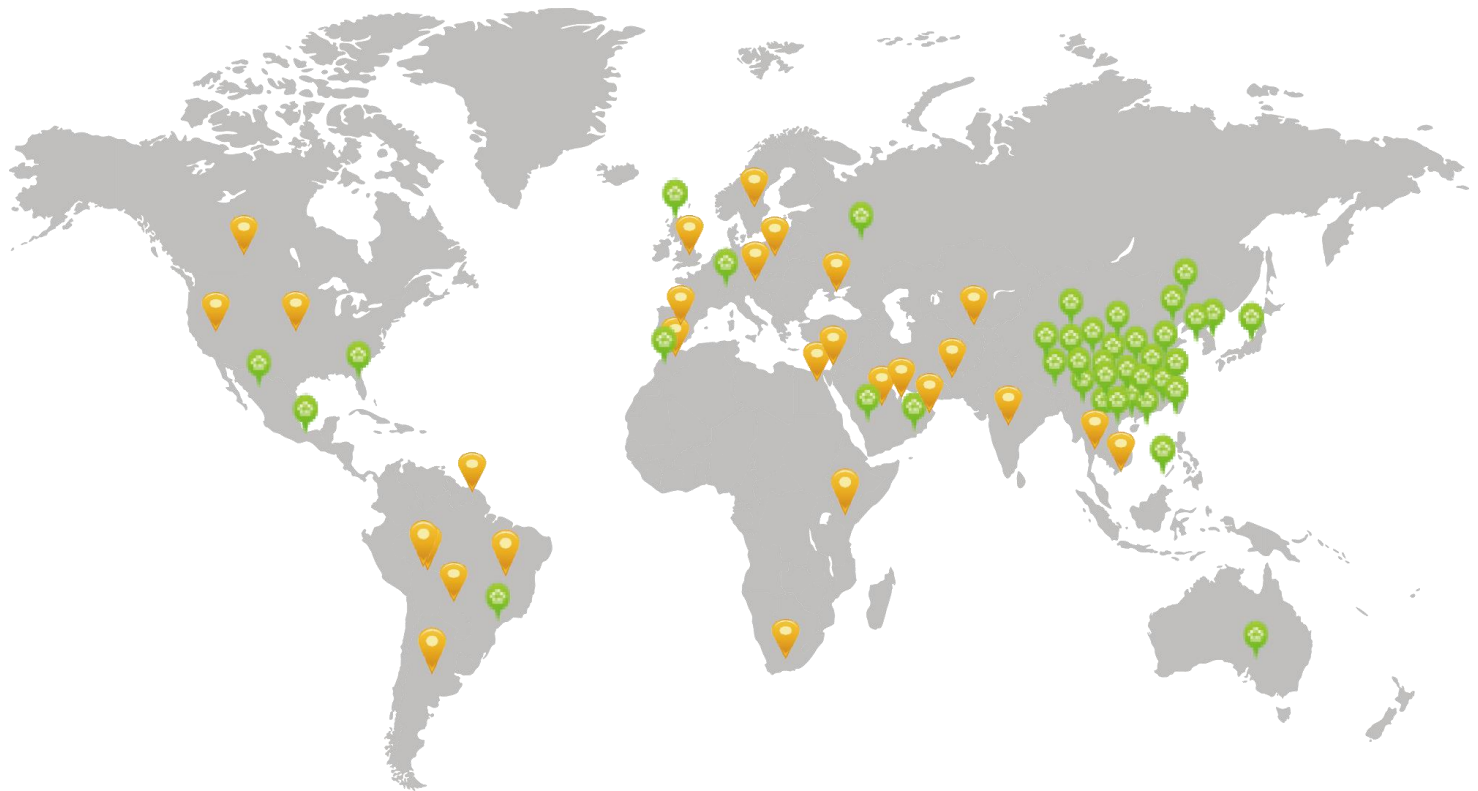
Less than per day
1 KWH/SQM

A25 Series Low-carbon & Energy-saving LED Display

Energy saving | Extend up to 10 years warranty | 0 down payment



IDES Energy Precision × AbsenCare Service



Regional Service Center



Service Partner

AbsenCare · Platinum SLA Global Event-Grade Protection System

Global Bilingual Response

24/7 remote diagnostics, technical clarification ≤24 hours

Hot-Swap Module Replacement

Live hot-swap, module replacement ≤60 seconds

Emergency Recovery MTTR

On-site team emergency recovery ≤4 hours

Precision Spare Parts Planning

MTBF data-driven calculation, 14 global warehouses

Product Matrix · Scene-Based Precision Matching

 Outdoor Perimeter A99 V2 Series Outdoor Stadium Perimeter · International Federation Compliant P6.25/P10 · 7000nit · ≥7680/15000Hz · Die-Cast Aluminum	 Indoor Perimeter SP Series Basketball Arena Perimeter · Indoor Court Compliant P4/P6.66 · 2000nit · 7680Hz · Impact Shield	 Outdoor Ribbon S Series Stadium Fascia Ribbon · Dual Backup Redundancy ≥6000Hz · 16bit · 160° Viewing Angle · Waterproof Module
 Outdoor Scoreboard Outdoor Entrance A25 Series Outdoor Flagship · Scoreboard + Entrance P4.44-P10 · 7500-10000nit · 10000:1 · IP66	 IndoorCenterhung IndoorScoreboard IndoorRibbon K Plus Series Centre-Hung Display · 4K/8K Resolution P2.5/P3.9/P5.2 · 5800/7680Hz · 22kg/m²	 Indoor Entrance/Vomitory NX Series Indoor Entrance/Vomitory Display · Magnetic Shield P1.5-P2.5 · 1200nit · Magnetic Shield · EMC ClassB

L1-2 Lightweight Economy Community Sports Centers · Campus Gyms · Training Facilities	L3-4 Continental Mainstream Continental Cups · Premier League / CBA Home Arenas	L5 Broadcast-Grade Full Redundancy Top-tier global sporting events
--	--	---

Four-Step Action Guide

Free Venue Deep Diagnostic Senior experts conduct comprehensive LED system safety inspection, deliver professional diagnostic report 1	Event-Tier Precision Planning Tailored tiered selection plan based on venue type, event tier, and budget 2
Global Landmark Site Visits On-site visits to Bell Centre and other landmark projects to validate system reliability 3	Factory Platinum SLA Delivery 5,400+ ACE engineers perform full closed-loop commissioning, assist with international federation compliance final acceptance 4

About Absen

Absen Group (SZSE: 300389) founded in 2001
LED display standard for global premier events · serving 1,000+ professional venues worldwide