

STAD 360

STADIUM SOLUTIONS PROFILE



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ABOUT US

RSG technology solutions, providing excellence in technology contracting since 2015.

RSG is an information technology, communication, gaming and stadium solutions provider company. Our headquarters are in Riyadh, Saudi Arabia, with one branch office in Jeddah, Saudi Arabia.

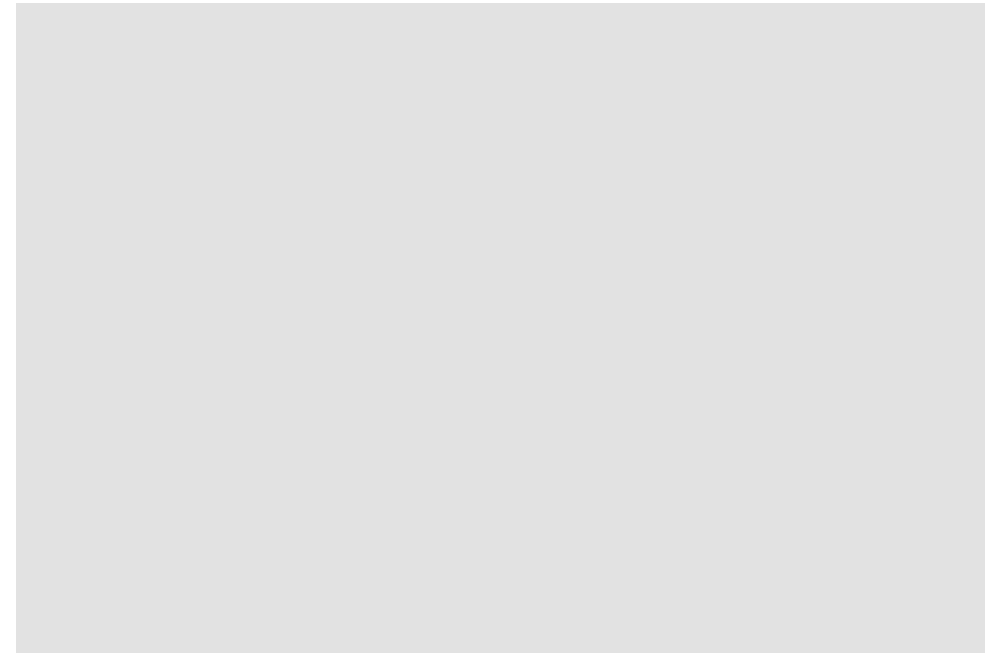
With our extensive experience, we develop a spectrum of solutions for organizations across the business industry. From business intelligence, resource planning, cybersecurity, IT services and media production, to gaming, stadium solutions and maintenance, RSG is able to tailor a full package to meet the organizational needs.

OUR MISSION

We aim to support our customers efficiently by providing the best services and solutions for private and public sectors.

OUR VISION

Rock Solid Group's vision is to become a global leader in customized technological solutions. RSG has been providing excellence in technology contracting since 2015.



OUR CORE VALUES





STADIUM SOLUTIONS

RSG has a range of turnkey technology solutions for the stadiums that are tailored based on perceived challenges of the stadium or requirements of a client. Our stadium solutions are:

01 ICT SOLUTIONS

- Data Centers & Enterprise Solutions
- Telecommunication & Telephony
- Structured Cabling & Fiber Networks
- Computing & Storage Systems
- In Building Solutions (GSM, CDMA, TETRA, LTE, DAS)
- Data - VOIP - Wireless Systems
- End User Management Solutions
- Data Protection and Backup Solutions
- Secure Internet Gateway Assessment
- Connectivity (LAN, WAN, Firewalls, Internet Access and VPN)
- Cisco Unified Communication
- Biometric Attendance Machines
- Active Directory
- Email Services – Microsoft 365
- Anti-Virus Service
- Storage & File Share
- Printers & Scanners
- Helpdesk and Support



02 AUDIO VISUAL SYSTEMS

- LED Screens
- Projection Systems
- LED Tickers
- Visual Displays
- Digital Signage
- Operations Control Room
- Touch Screen Interactive Systems
- Background Music System
- Public Address System (PAS)
- Advertising Displays
- Score Boards & Pitch Side Display Systems



03 BROADCAST SYSTEMS

▶▶▶ Spidercam

- The Spidercam is a system which enables film and television cameras to move both vertically and horizontally over a predetermined area.
- The Spidercam operates with four motorized winches positioned at each corner at the base of the covered area.
- The system allows the dolly to reach any position in the three-dimensional space.



▶▶▶ The Outside Broadcast Van (OB Van)

- Broadcast Facility Panels
- Cable Infrastructure
- OB Van Compound and Docking Feeder Pillar

04 SMART SOFTWARE AND ANALYTICS

▶▶▶ “STAD360” Mobile App

- Saudi teams and their players
- Players bio/stats
- Featured Players
- Special “Shake” feature: shake your mobile and the featured player will appear
- Saudi Professional League games schedule & results
- Saudi Super Cup and Saudi King’s Cup games achedule & results
- Live updates, news, scores...
- Shoot and Share on the user’s social media feature
- The app will be bilingual in Arabic and English



▶▶▶ Video Assistant Referee (VAR)

- The VAR protocol, as far as possible, conforms to the principles and philosophy of the Laws of the Game.
- The use of video assistant referees (VARs) is only permitted where the match/competition organizer has fulfilled all the Implementation Assistance and Approval Program (IAAP) requirements as set out in FIFA’s IAA documents, and has received written permission from FIFA.



▶▶▶ Football Video Analysis Software

- Analyze football games to improve the performances of your teams.
- Empower your players.
- Improve their tactical knowledge.
- Help them make smarter in-game decisions.

▶▶▶ Complete Venue Control Solution

To enhance stadium atmosphere. Our Technology enables full control of the media systems and not only for displays, but for audio, lights and much more.

▶▶▶ Semi-Automated Offside Technology

It is a support tool for the video match officials and the on-field officials to help them make faster, more reproducible and more accurate offside decisions.

▶▶▶ Goal-Line Technology

It is a technical means of instantly determining whether the whole of the ball has crossed the goal-line. Goal-line technology continues to be a staple in the football world since its first implementation in 2014.

▶▶▶ Team Performance Analysis

Performance analysis solutions provide teams and officials with pre-match planning, live match analysis and post-match review.



05 SAFETY AND SECURITY

▶▶▶ Security Solutions

- Video Assessment & Surveillance System (VASS)
- Access Control Systems (ACS)
- Facial Recognition Systems
- Walk Through Screening System & Handheld Metal Detectors

▶▶▶ Video Surveillance System – Control Room

The Facility will be provided with a centralized CCTV system distributed throughout CCTV coverage:

- All Vehicular Ingress and Egress
- All Main Pedestrian Entry and Exit Points
- On Main Concourse in all Areas
- On all Platforms in all Areas
- Mega Pixel Technology for Crowd Monitoring



06 VISITOR ACCESS

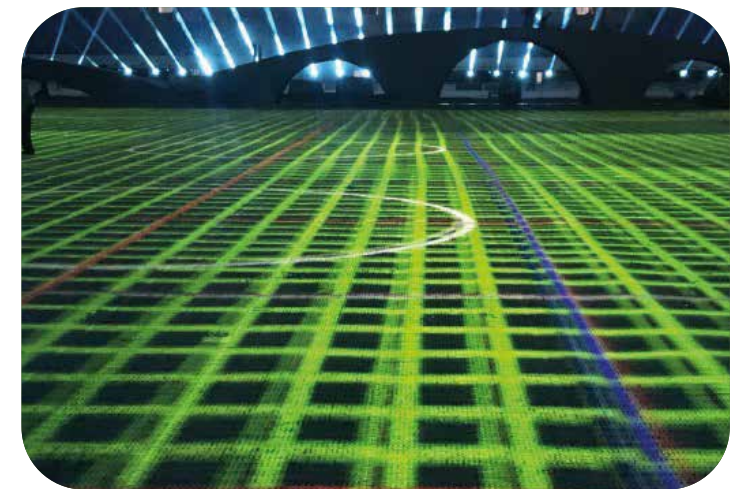


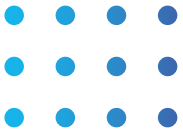
- Waist Height Turnstile
- Half Height for Disabled
- Full Height Turnstile
- Speed Gate
- Heat Maps Analyzing Crowd Density
- Visitors Counting
- Visitors Crowd Management



07 PITCH WORK TECHNOLOGY

- **Natural Grass & Pitch Reinforcement System**
Mixed grass has become a common term, and while all types of mixed grass technology can enhance turf surfaces and add stability & sturdiness, at present, the turf reinforcement of professional football fields and major professional competitions adopts the knitted turf reinforcement system.
- **Planting Layer Structure**
Pitch structural layer practice consists of: formation, drainage system, gravel, lower root zone and up root zone.
- **Ventilation System**
The lawn underground ventilation system is composed of a special lawn ventilation machine room, ventilation ducts, and control systems.
- **Drainage System**
The rainwater drainage in the lawn area adopts the drainage method combined with drainage and seepage.





- **Irrigation System**

The distance between the nozzles should be 0.9 times of the spraying range, so as to achieve uniform coverage of the entire field of sprinkler irrigation, and there will be no situation where the nozzles cannot be sprayed near the nozzles.

- **Pitch Grow Lights**

The stands and dome construction around the stadium reduce the sunlight in the stadium, which in turn affects the development of the lawn. Therefore, it is necessary to artificially supplement the lawn with sufficient light.

- **Pitch Protection System**

The football field holds commercial performances, gatherings, exhibitions, conferences, etc. This will cause certain damage to the lawn, and it is necessary to take protection measures for the lawn before the event is held. The lawn protection board system provides professional natural lawn protection.

- **Pitch Heating System**

- **Pitch Surface Ventilation System**

The stands and dome construction around the stadium make the ventilation inside the core of the football field poor. High-power surface ventilation equipment can be configured according to the actual situation to artificially circulate the air above the surface of the site, and the equipment can also have cooling and cooling functions.

- **Pitch Maintenance**

- **Turf Farm**

- **Run Rubber Track**

the prefabricated rubber runway system ensures the uniformity of the ground system for athletes in the same competition, which also embodies the Olympic spirit of fair competition; easy installation, short construction period; easy maintenance, no surface threshing Chipping phenomenon.



08 GAME'S SPECIFIC SYSTEMS

■ FOP Lights System

FOP lighting, landscape facade lighting, square lighting, and even indoor functional lighting can all be integrated and run under a unified platform. The core of the system is based on the TCP/IP network, and the network expansion capability is powerful.

■ LED Giant Screen

The LED Display design of the football field includes LED Giant screens at both ends of the field, a Ribbon screen on the floor, an outdoor football field advertising screen; The size of the venue display screen should be selected according to the viewing distance and the resolution of the display screen.

■ LED Ribbon Display

■ Loud Speaker System

Acoustic design requirements are high, to ensure speech intelligibility under the condition of super large space and long reverberation. The electro-acoustic system needs to be combined with architectural acoustic design.

■ Soccer Timing & Scoring System

The football timing and scoring system is mainly composed of timing and scoring controller, wireless LED substitution board, control computer and football score processing system, system communication interface and display.

■ Ticket System

The system design meets the technical requirements of the ticket sales and inspection access control system required by FIFA, as well as the technical requirements of the venue ticket processing center system.



- **TV Broadcast & Comment System**

The system adopts a high-definition cable wiring system that meets the SMPTE311 standard, and the relay position (platform) set by the system can meet the requirements of the FIFA standard camera position, and can also meet the requirements of the FIFA standard VAR special camera position.

- **Standard Clock System**

The system receives the timing signal from the National Time Service Center through the Internet of Things receiving module, and transmits the timing signal to the front-end clock through wireless data communication.

- **Competition Equipment Integrated Management System**

The system is a set of stadium audio, video and lighting linkage system dedicated to sports display services in stadiums. The system realizes the display of video information, audio playback and venue lighting control in stadiums through corresponding system integration technology and information integration technology. The system insures the linkage control of the light show before the competition in the stadium, the mobilization of the audience's watching atmosphere through the broadcast of the venue announcer and the display of the venue's competition information. It will attract high attention from the media and audience.



- **Competition Real-time Information Publishing System**

The system adopts the SDVOE technical standard based on all-optical 10 Gigabit Ethernet that supports real-time transmission of 4K ultra-clear signals without delay and compression, and can meet the requirements of FIFA.

- **Video Replay System**

The system should support multi-angle game scene video collection, as well as point-and-play multi-angle and multi-screen game video playback, and the system should meet the technical requirements of FIFA.



- **Optical Tracking System (OTS)**

FIFA certified football 3D optical tracking system. Based on the actual situation of the football field, 6 to 16 high-definition cameras can be installed. Combined with optical image processing algorithm software, real-time information tracking of moving objects in the venue can be achieved.

- **Sports Performance Monitoring System**

The technology is a FIFA-approved performance/body function monitoring system. Local Positioning System (LPS) realizes the analysis of player's position and motion state through the barrier-free communication of three or more locally installed receivers with known exact positions (athlete's physical function monitoring, heart rate monitoring, etc.)



- **Venue Operation Management System**

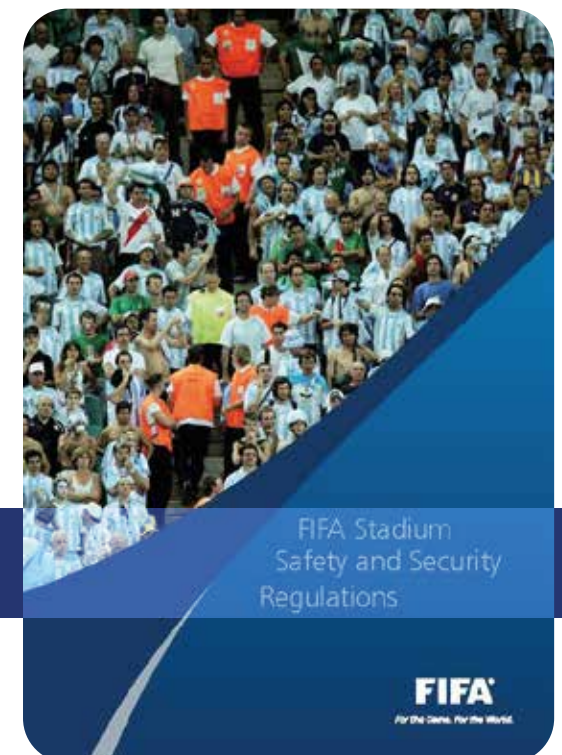
The system meets FIFA requirements and uses audio and video technology, multimedia technology and computer network technology to provide all-round communication, video monitoring, and equipment remote monitoring for the operation support team of the venue during the competition.

- **Venue Communication System**

This system is a professional communication system required for the high-level operation of modern football fields. It is a dedicated high-reliability communication system specially designed for the complex working environment of the stadium and low-latency communication response applications. It is an essential system to improve the operation efficiency of venues in occasions such as video playback.

FIFA STANDARD REQUIREMENT

- Football Stadiums Technical Recommendation and Requirements 5th edition 2011
- AC 2023 Stadium Technical Annex
- FCWC 2021 Hosting Requirements
- UEFA Tournament Requirements
- AFC Stadium Lighting Guideline
- FIFA Lighting Guide 2020





<https://rsg.one/connect>

RIYADH | JEDDAH

