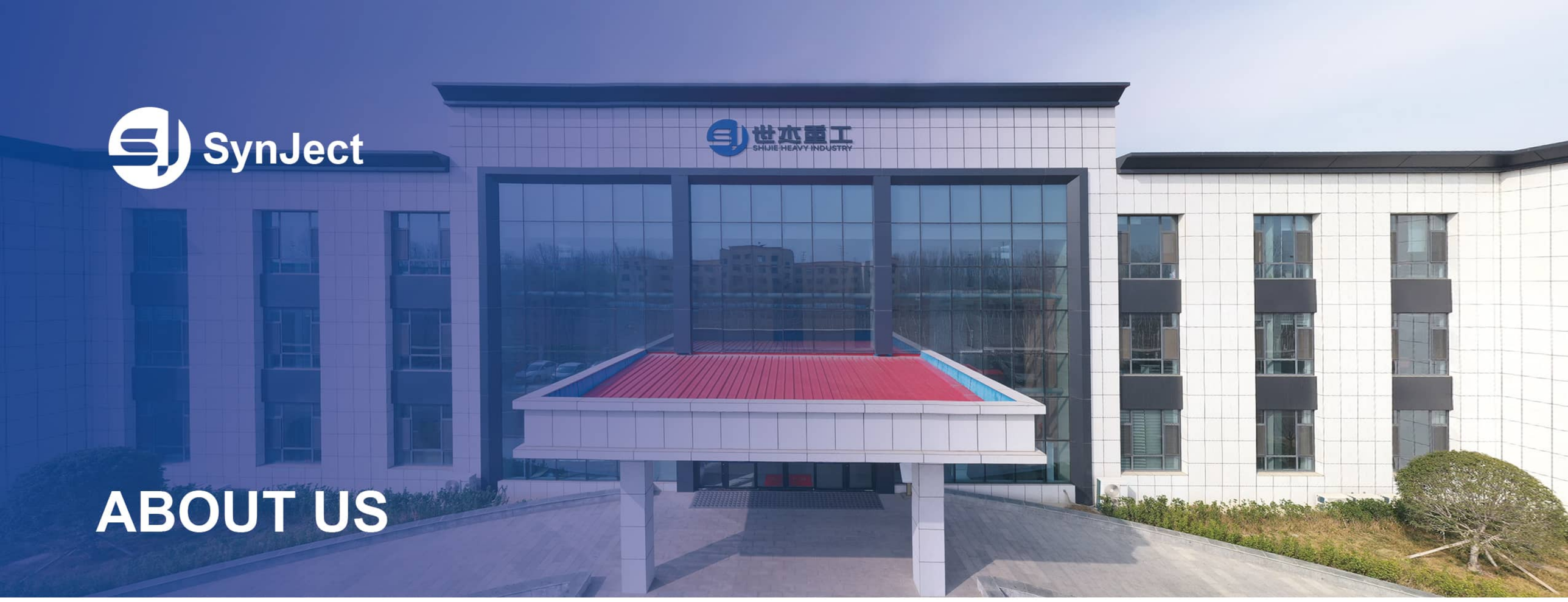
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https://www.shijievt.com/
https://sdshijie.com/

PORTAL RIGID FRAME SYSTEMS — ENGINEERED FOR SPACE EFFICIENCY & SUPERIOR DURABILITY





COMPANY PROFILE

Headquartered in China with a global engineering footprint, Shandong Shijie Heavy Industry Co., Ltd. is a premier manufacturer and turnkey partner for heavy steel structures. Backed by an 80,000 sqm state-of-the-art fabrication facility, we specialize in delivering uncompromising structural solutions for the world's most demanding sectors—from mega-scale logistics hubs and heavy manufacturing plants to climate-controlled agricultural complexes.

Why EPCs & Investors Trust Us:
We understand that in international construction, delays and on-site clashes are not options. That is why we operate strictly under EN 1090 EXC3 and AWS D1.1 standards. From high-tensile multi-span rigid frames to complex space trusses, every beam we produce is driven by LOD 400 BIM detailing and rigorous QA/QC protocols.

LIFECYCLE DURABILITY

Utilizing ISO 12944 C4/C5-M heavy-duty coating systems or ISO 1461 hot-dip galvanizing, paired with a 360° standing-seam concealed-clip roof system, delivering 25+ years of maintenance-free performance against corrosive environments and roof leakage.

PRECISION FABRICATION

CNC-driven cutting and automated welding ensure "Ready-to-Bolt" assembly, drastically accelerating on-site erection and achieving zero on-site welding.

TRACEABLE QUALITY

100% NDT (UT/MT) on critical welds, SA 2.5 surface preparation, and full material traceability (MTC 3.1).

STRUCTURAL EFFICIENCY

Advanced finite element modeling and optimized tapered (variable cross-section) profiles achieve column-free clear spans up to 60 meters, reducing structural steel tonnage by 12%–18% while strictly complying with international deflection limits.

EXTREME RESILIENCE

Whether it is a Category 5 hurricane in the Middle East or heavy snow loads (up to 5.0 kN/m²) in Russia, our structures are engineered to endure.

DYNAMIC STABILITY

Engineered for heavy industrial operations, our frames incorporate strict horizontal displacement controls (H/400–H/500) and fatigue-resistant detailing to safely accommodate up to 50-ton bridge cranes and high-vibration process equipment.

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PROJECT STRENGTHS

QUALIFICATION CERTIFICATE



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PRODUCT INTRODUCTION

As an established EPC partner for pre-engineered steel structures, we design, fabricate, and deliver integrated systems built for demanding environmental challenges. From logistics hubs to heavy industrial plants, our precision-prefabricated solutions eliminate on-site uncertainties. By optimizing structural efficiency and ensuring zero on-site welding, we de-risk your investment, fast-track commercial operation, and secure your long-term structural assets.

TECHNICAL PARAMETER LIST

International Design Codes & Standards	Fully compliant with AISC 360 / MBMA / EN 1993 (Eurocode 3) / GB 51022
Framing System Configuration	Rigid portal frames with solid-web tapered H-beams & rigid rafter-column joints
Clear Span & Building Dimensions	Clear Span: 12 - 60 m (Column-free); Eave Height: 6 - 24 m; Bay Spacing: 6 - 12 m
Foundation & Base Plate Interface	Pinned or rigid column bases with high-strength pre-embedded anchor bolts (Q355/A36)
Crane Capacity & Deflection Limits	5t - 50t overhead bridge cranes (Strict horizontal deflection controlled to H/400 - H/500)
Design Deflection Criteria	Rafter deflection ≤ L/240; Column lateral drift ≤ H/150 - H/400 (per AISC/GB codes)
Primary Structural Steel Grade	High-strength Q355B/Q355C (ASTM A572 Gr.50 / EN10025 S355JR); Secondary in Q235B
Secondary Framing Members	Cold-formed galvanized C/Z purlins & girts (Yield strength ≥ 350 MPa, Z275 coating)
Wind Load Resistance	Engineered up to 0.95 kN/m² (Wind speed up to 240 km/h / Category 4-5 hurricanes)
Seismic Design Category	Seismic Zones 6 to 9 (PGA up to 0.4g / Seismic Design Categories A through E)
Snow & Live Load Resistance	Engineered from 0.3 kN/m² up to 5.0 kN/m² for extreme snow and roof service loads
Roof Slope & Drainage Profile	Standard slope 1:10 to 1:20 (Self-supporting single/double pitch with ridge vents)
Roof Cladding & Weatherproofing	360° standing-seam concealed-clip metal panels (Zero through-fasteners, 100% leak-proof)
Gutter & Storm Drainage System	Seamless external/internal color-coated steel or SUS304 gutters with siphon drainage

TECHNICAL PARAMETER LIST

High-Strength Bolt Connections	Grade 10.9S / ASTM A325/A490 high-strength friction-grip bolts for 100% field bolting
Surface Preparation	Strict execution of Sa 2.5 (ISO 8501-1 / SSPC-SP10) shot blasting for all steel members
Anti-Corrosion Coating System	Epoxy zinc-rich primer + PU finish (ISO 12944 C3 to C5-M) or Hot-dip galvanizing (ISO 1461)
Fire Protection Treatment	Intumescent fire-resistive coating (Thin/Thick type) certified for 1.0 - 3.0 hour fire rating
Shop Fabrication & Welding	CNC-cut plates, automated submerged arc welding (SAW), and robotic gas welding (FCAW)
Non-Destructive Testing (NDT)	100% UT (Ultrasonic) / MT (Magnetic Particle) on all full-penetration butt welds (AWS D1.1)
Construction & Delivery Method	100% Shop-prefabricated modular components; "Ready-to-Bolt" zero on-site welding
Fabrication Tolerance Standard	Strict compliance with EN 1090-2 (EXC2/EXC3) / AISC Standard Practice / GB 50205 limits
Target Building Applications	Logistics hubs, heavy machinery workshops, cold storage, chemical plants, hangars
Critical Physical Design Inputs	Basic wind velocity, local ground snow depth, seismic zone, soil bearing capacity (kPa)
Thermal Insulation System	Polyurethane (PIR/PUR) / Rockwool sandwich panels (50 - 150 mm) or fiberglass blanket + foil
Structural Optimization Scheme	3D Tekla BIM & PKPM modeling for 12%–18% steel tonnage savings and clash-free assembly
Natural Daylighting & Ventilation	UV-resistant polycarbonate daylighting panels (FRP) and continuous roof gravity ventilators



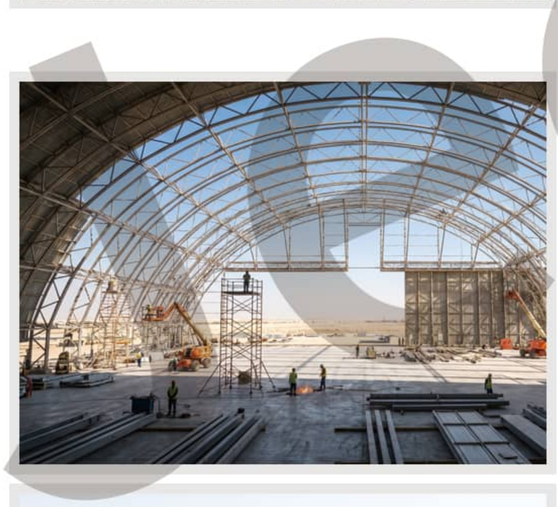






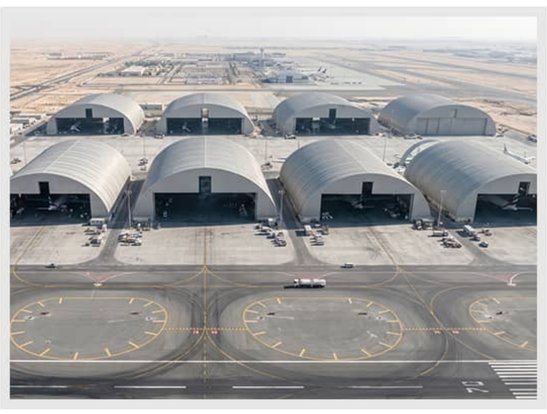












TYPICAL PORTAL FRAME CONFIGURATIONS







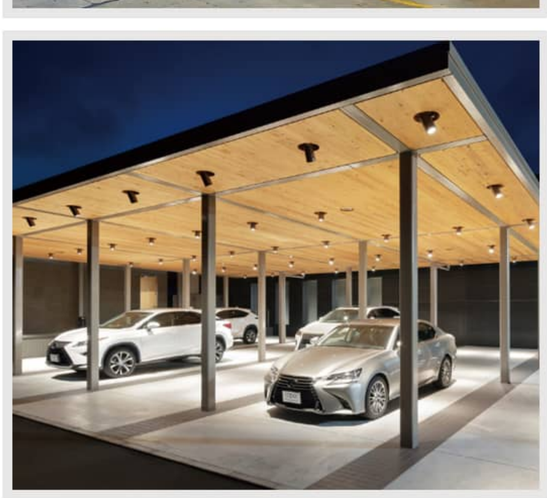




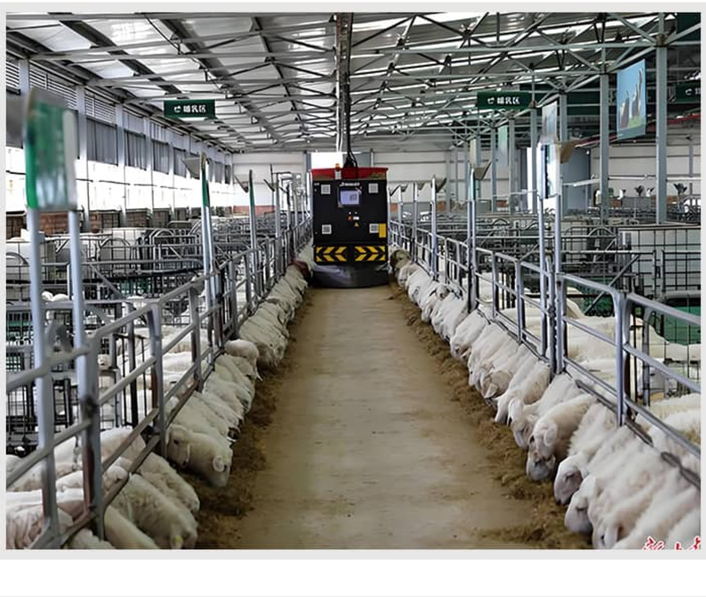






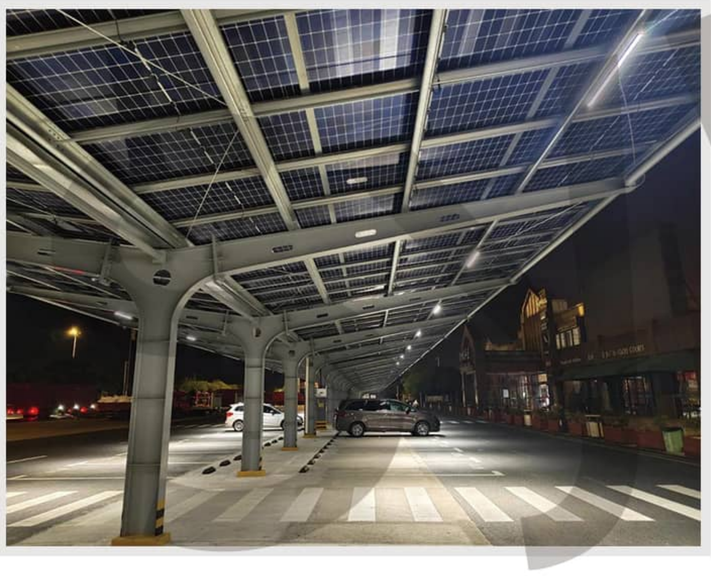


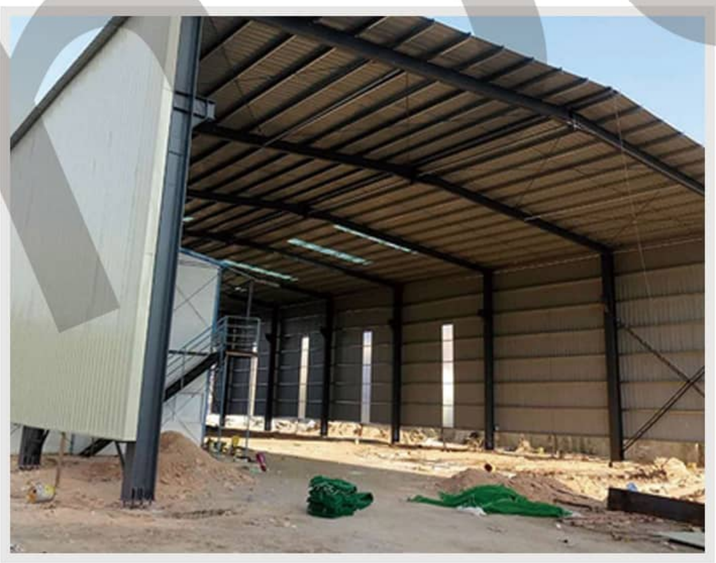








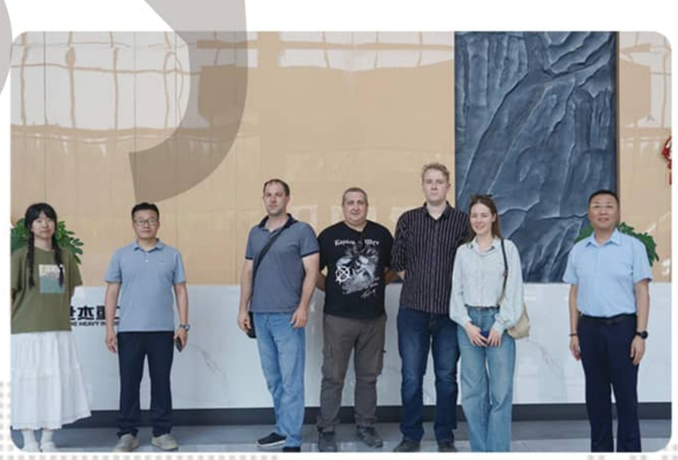








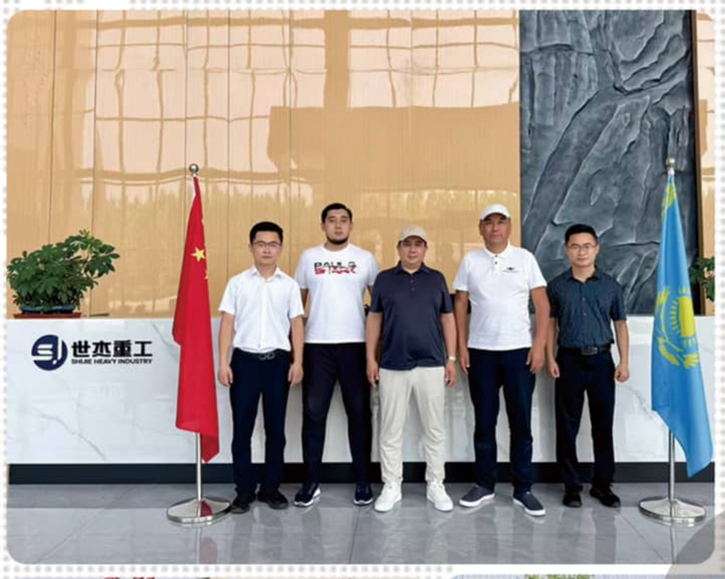
AUDITED & APPROVED BY GLOBAL LEADERS




















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THE GLOBAL TRACK RECORD





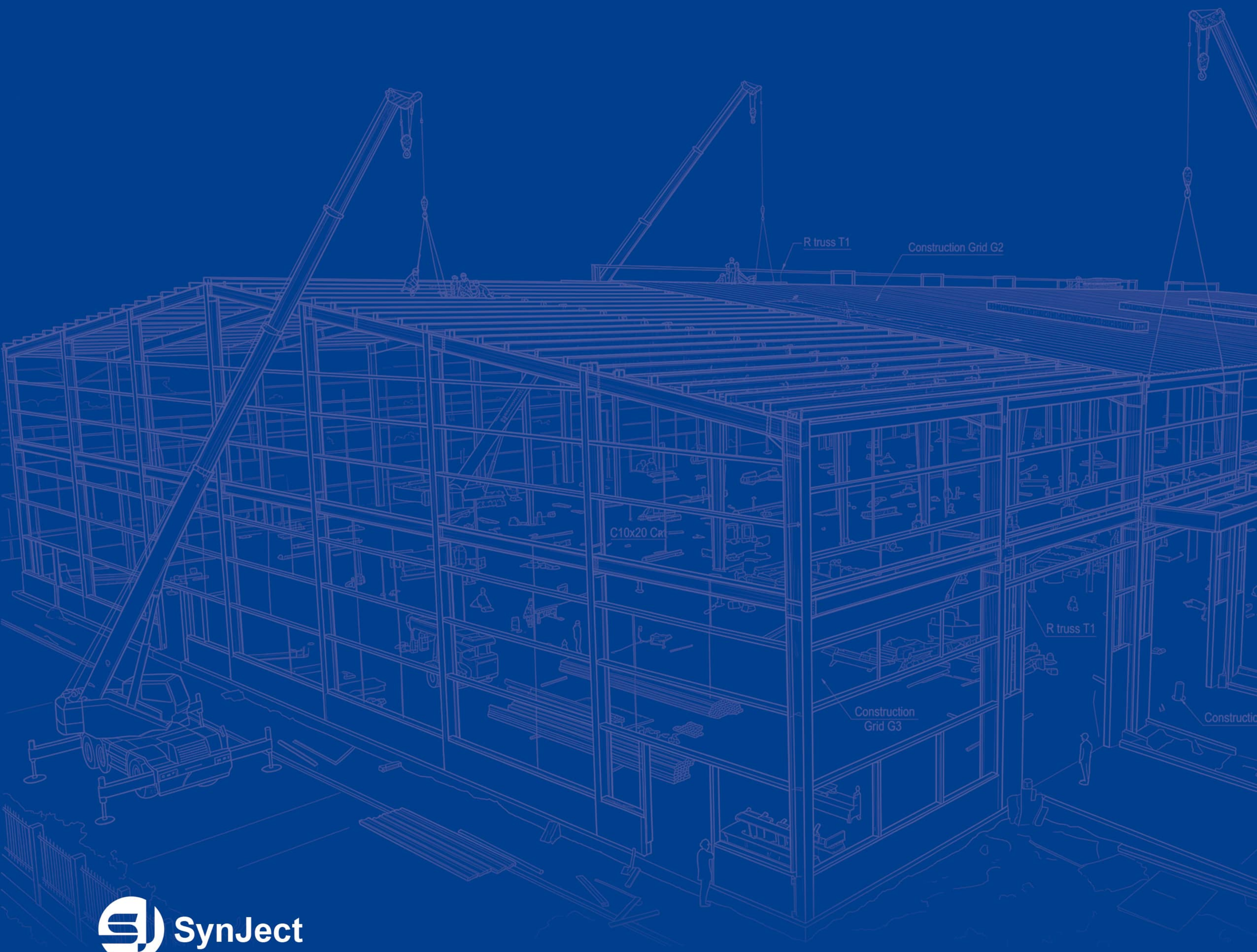








Shandong Shijie actively expands its domestic and international markets, establishing long-term strategic partnerships with well-known enterprises such as PetroChina, Sinopec, Huaneng, and Geely. Its engineering projects cover more than 300 cities in 23 provinces in China, and its international engineering operations have reached nearly 30 countries and regions in the Middle East, CentralAsia, Southeast Asia, Europe, and America, receiving widespread praise from domestic and foreign merchants. In the future, Shijie people will warmly welcome domestic and foreign merchants to create brilliant careers together!



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