

B.Cube
Società di Ingegneria

Steel Structures

Steel Structures

As part of a strategy focused on growth, diversification of business sectors, and strengthening its position within the construction industry, **B.Cube** established the **Steel Structures Department** in 2024.
This initiative reflects the company's commitment to consolidating its **mission: supporting** contractors not only as a technical consultant, but also as a **strategic partner** capable of positively impacting competitiveness, operational efficiency, and the mitigation of industrial risk. The Department is built upon the experience of **B.Cube's Senior Advisors**, gained through executive roles in leading steel fabrication companies and General Contractors operating at both national and international levels with direct responsibility for detailed design, engineering, production, project management, and site coordination.
B.Cube supports General Contractors and manufacturing companies throughout the entire project development cycle, contributing to:

- Reducing technical and contractual criticalities
- Optimizing costs, schedules, and production processes
- Improving integration between structural systems, building envelopes, and building services
- Ensuring quality, safety, and performance control

Today, the Steel Structures Department represents a strategic asset for companies involved in complex projects requiring a high level of technical integration. The department acts as a qualified technical interface between designers, engineering offices, production teams, and construction sites, ensuring decision-making continuity and control of structural performance throughout the entire project lifecycle.



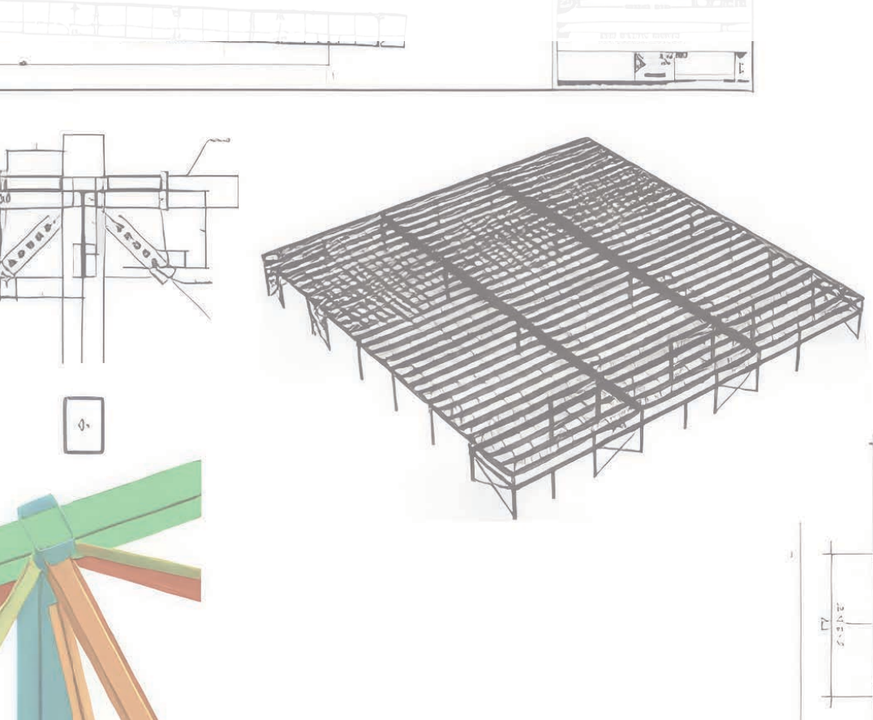

OUR SERVICES

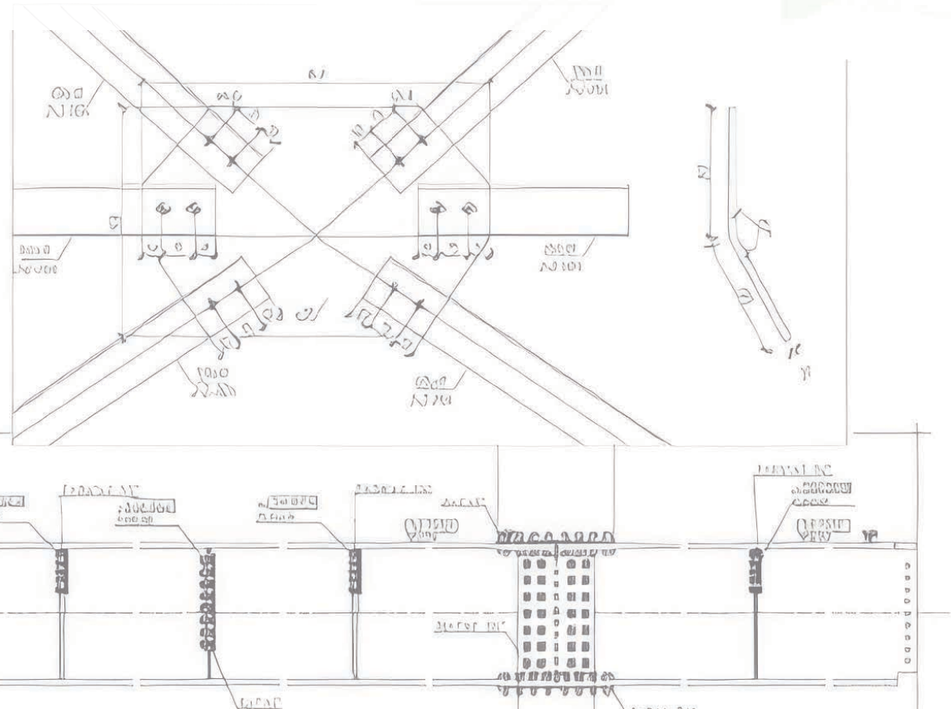
Design Documentation Review

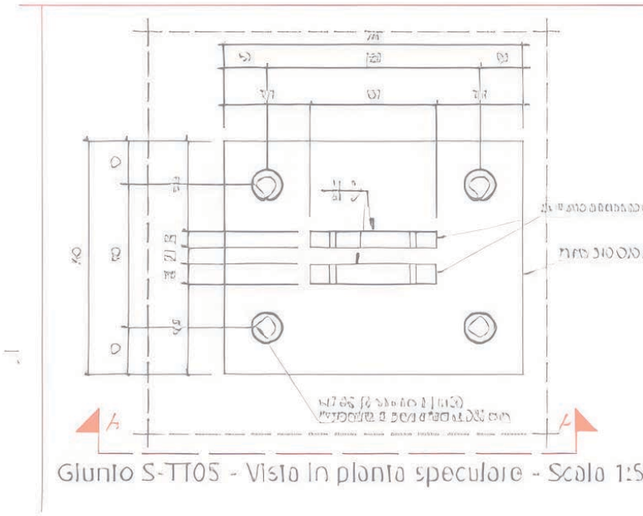
We perform a **systematic and structured review of the project** design documentation, including drawings, construction details, and technical reports, to identify gaps, inconsistencies, and potential execution-related criticalities.
This activity helps **prevent production errors**, site delays, and unforeseen costs by identifying and resolving potential issues **before the fabrication phase begins**, ensuring greater reliability during project execution.

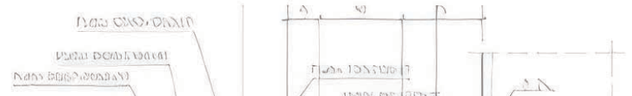
Optimization of Design Solutions

We optimize the project design in terms of **manufacturability and assembly**, reviewing operational sequences, component compatibility, and integration with reinforced concrete structures, roofs, façades, and building services.
Through the analysis of construction sequences, temporary loads, equipment accessibility, on-site personnel safety, and interfaces with other structures and systems, we anticipate operational criticalities and improve the reliability and efficiency of the overall construction process.

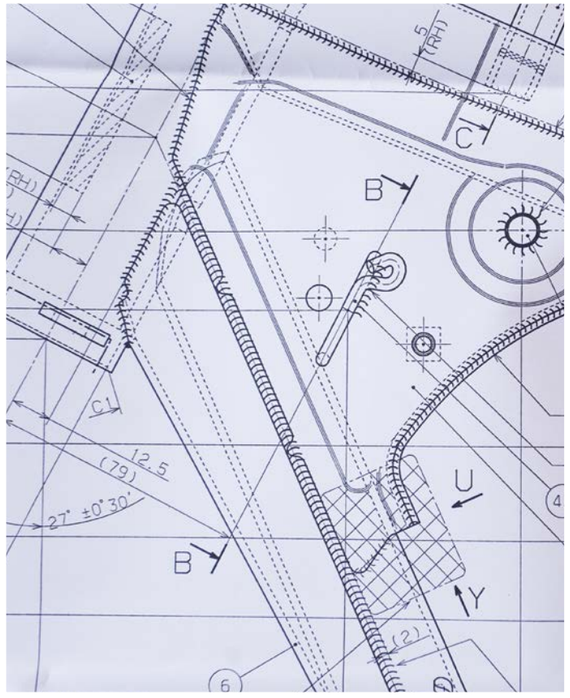










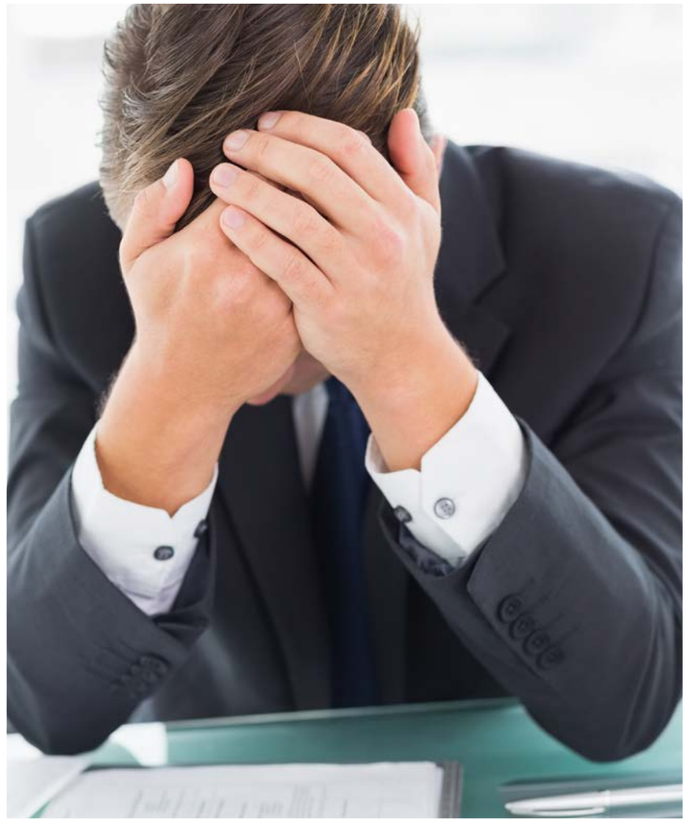


Management of the Supply and Installation Contract

We support the client in the technical and operational management of steel structure supply and installation contract, ensuring consistency between contractual obligations, detailed design, and fabrication and erection activities.

Our team verifies the compliance of supplies with technical specifications, monitors delivery planning and installation sequences, and assists in the management of variations, claims, and unforeseen technical issues.

Our involvement **helps prevent disputes**, delays, and misalignments between stakeholders, ensuring greater control over project execution and operational continuity on site.







Analysis of Structural Operational Scenarios

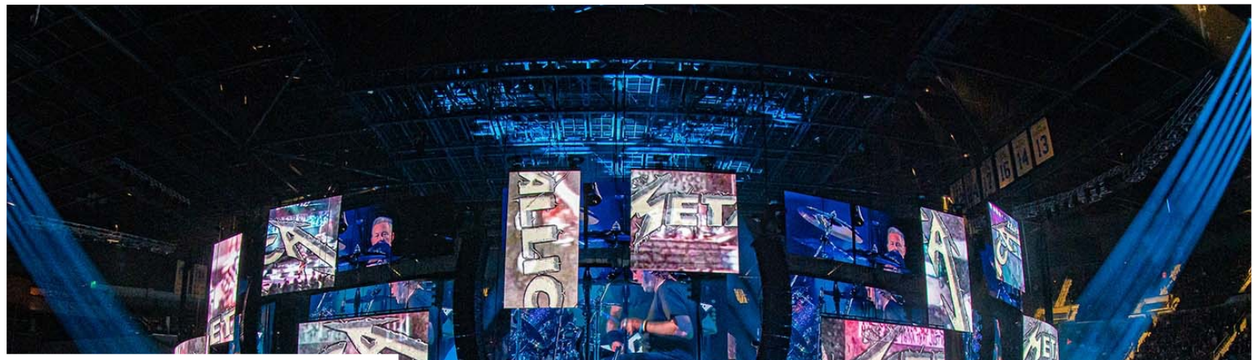
We carry out an **in-depth assessment** of the expected and potential operating conditions of the structure, verifying that it is **properly sized and configured to meet all the project's functional requirements** over time.
The activity includes the analysis of:

- Support of permanent and variable loads
- Potential interferences with mechanical, electrical, and plumbing systems, including service routes and adequate space for inspection and maintenance
- Thermal and acoustic insulation requirements
- Fire protection systems
- Corrosion protection according to the exposure environment and operating conditions

This approach helps prevent late-stage adaptations, unforeseen strengthening works, or corrective interventions during advanced project phases, ensuring durability, safety, and consistent structural performance throughout the entire project lifecycle.









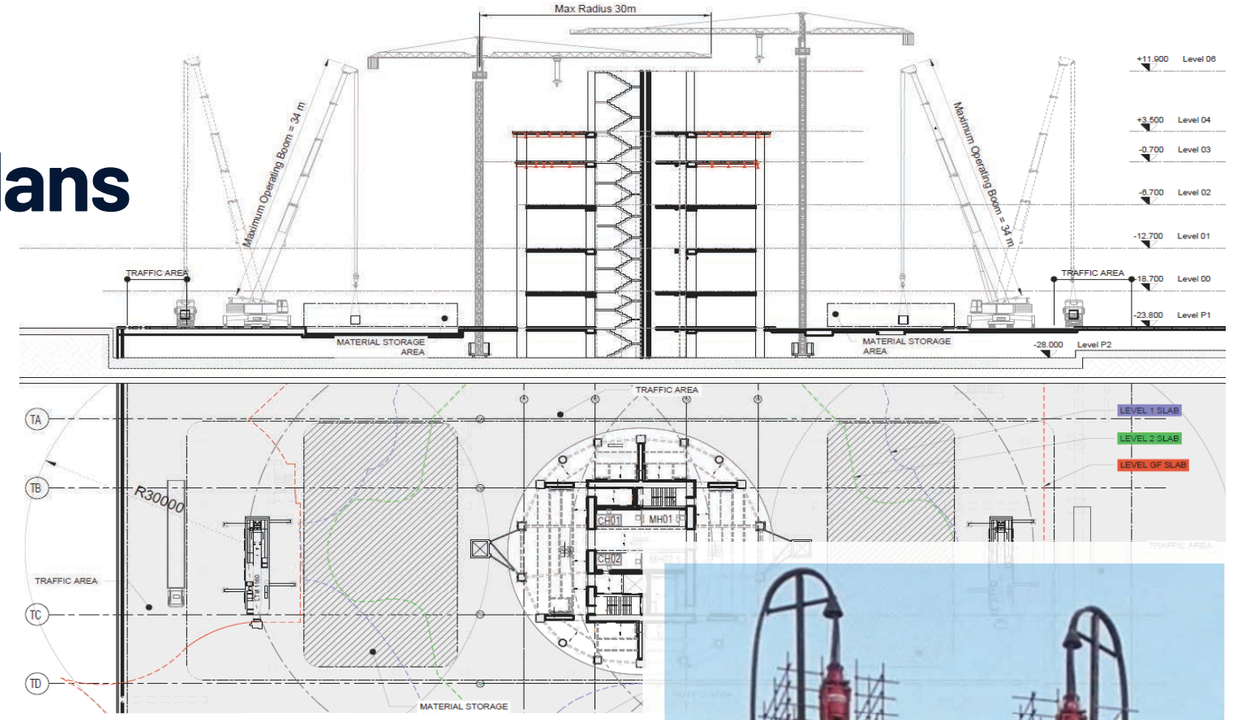


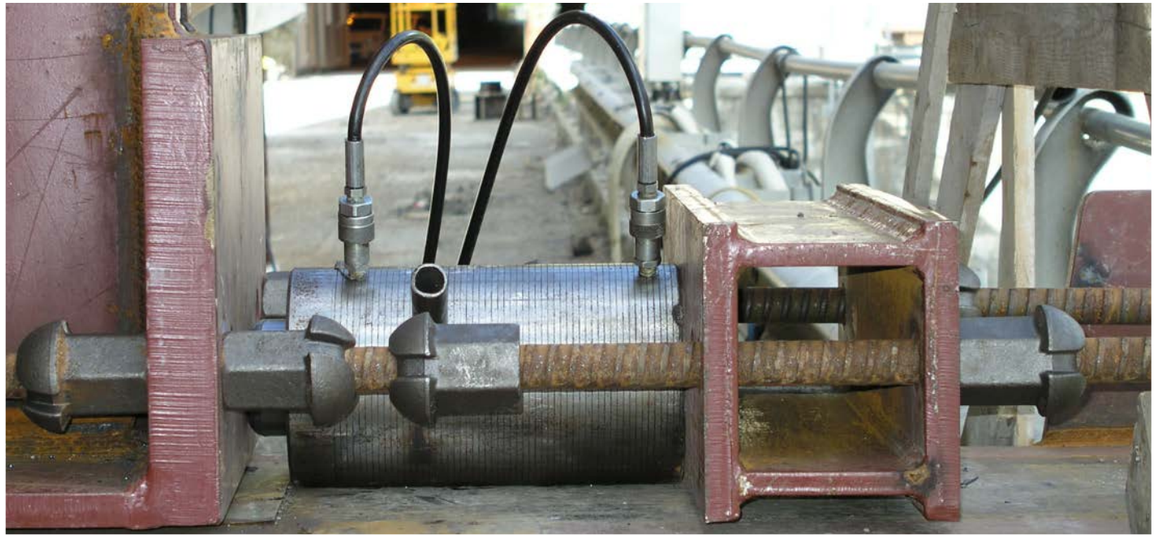


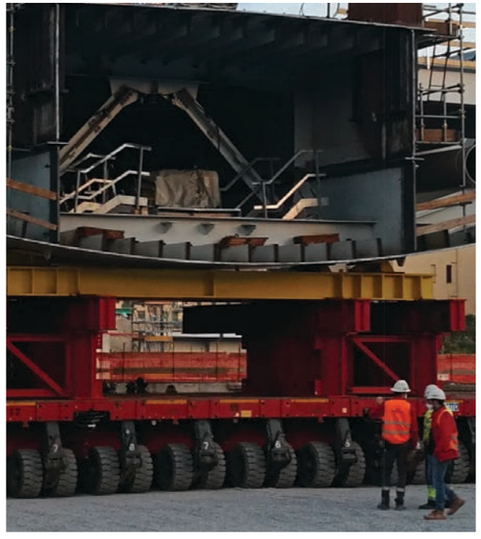
Development and Verification of Lifting, Assembly, and Erection Plans

We develop **operational plans** that translate project design into a controlled and efficient execution sequence. This includes preparing and validating detailed erection plans, defining lifting and assembly sequences, operational phases, and interfaces with other on-site activities.

The activity includes **logistics planning**, identification of **lifting and handling equipment**, verification of temporary and transitional phases, and **scheduling of execution timelines.** Each plan is assessed in terms of safety, operational efficiency, and cost optimization, to reduce interferences, unforeseen issues, and slowdowns during the installation phase.











Technical Support on Site

We assist contractors during the supply and erection phases of steel structures, providing continuous technical support on site and supervision of assembly activities.

Our team verifies the correct implementation of design specifications, compliance with defined operational sequences, and the proper coordination of interfaces with other site activities.
We intervene promptly to resolve execution-related criticalities, ensuring operational continuity and maintaining a high level of construction quality.



Quality Control and Performance Verification

We oversee quality control throughout all phases of the project, from the verification of materials and certifications to the inspection of welds and assembled structural components.

The activity includes dimensional checks, documentation review, and validation of structural performance against design specifications and applicable regulatory requirements.
The objective is to ensure safety, durability, and full compliance, guaranteeing that the structure meets the expected technical standards and maintains its performance over time.



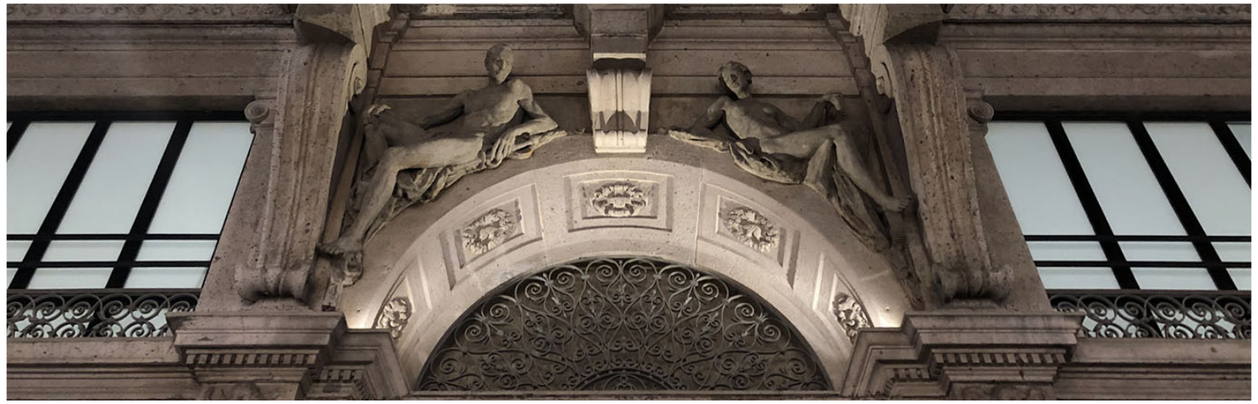
Why Choose B.Cube

Choosing B.Cube means relying on a **technical advisor with a systemic vision** of the construction process and deep specialist expertise in steel structures.

We operate at the intersection of design, engineering, fabrication, and construction, ensuring decision-making consistency, effective interface management, and control of technical and industrial risks.

Our **extensive experience in complex projects**, both nationally and internationally, allows us to play an authoritative role during the most critical phases of a project, turning operational complexity into controlled and measurable processes.

B.Cube does not simply support the project: it **safeguards** its technical feasibility, **economic sustainability**, and **execution reliability.**









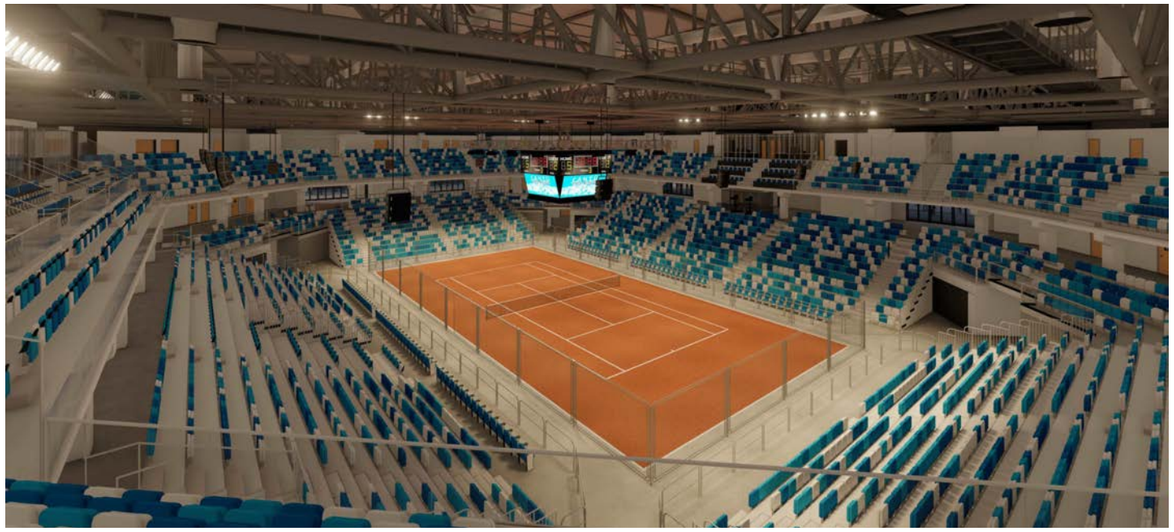
B.Cube
Società di Ingegneria

Our Distinctive Value

- Integrated vision of the entire project lifecycle
- Structured management of interfaces between design, production, and erection
- Mitigation of technical, contractual, and operational risks
- Optimization of cost and schedule performance
- High standards of quality, safety, and performance control

We Value Engineering


STADIUMS & ARENAS



Cantù Arena, Cantù (CO)

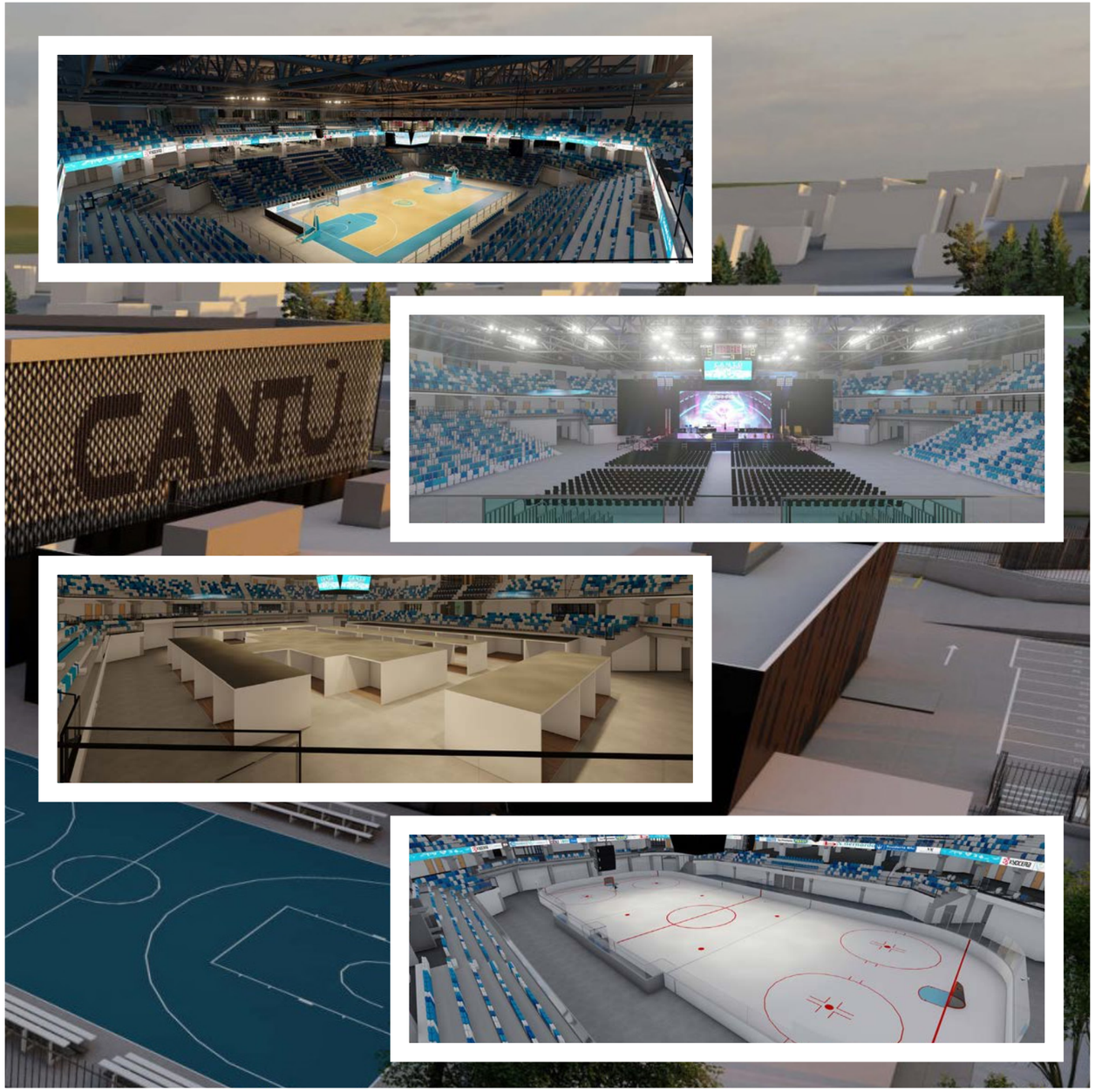
The Cantù Arena is a new sports facility designed to host national and international sporting events, as well as concerts and major public gatherings. The arena is conceived to ensure high standards of functionality, safety, and comfort, with a capacity of up to 5,000 seats, including hospitality spaces, corporate areas, and services dedicated to both spectators and athletes. The complex also includes a dedicated training court and a commercial area. The arena integrates advanced technological solutions and energy-efficiency criteria, ensuring long-term operational flexibility and sustainable management

Client: **Cantù Arena S.p.A.**
Roof Structure: **66 m steel truss system**
General Contractor: **ATI Cobet S.r.l., Pichler**

Steel Weight: **~1,000 tons**
Construction Cost: **≈ €32 million**
Duration: **24 months**

Steel Structures Activities:

- Preliminary erection plan for the roof structure
- Review of design documentation
- Verification of roof loads (technical equipment, event loads, and snow accumulation)
- Analysis of operational scenarios for the structure





Bosco dello Sport – Venice Arena, Venice (VE)

The Venice Arena, part of the Bosco dello Sport development near Venice Marco Polo International Airport, is a multifunctional indoor facility designed to host sports competitions, concerts, and major public events. With a capacity of up to 10,000 spectators, the arena is organized on four levels, including three tiers of seating, one of which is retractable. The upper level hosts food & beverage areas, while the basement level includes a dedicated warm-up gym for the teams.

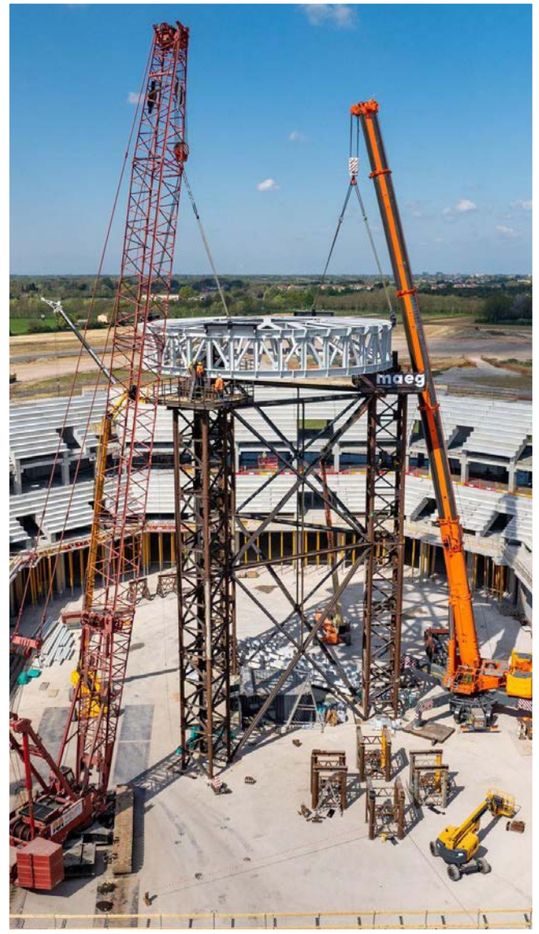
Client: **Municipality of Venice**
Construction Cost: **≈ €90 million**
General Contractor: **ATI: CEV – Milani – MAEG – Gianni Benvenuto**

Roof Structure: **Ovoid steel truss system**
Steel Weight: **~2,100 tons**
Designer: **Shesa**
Duration: **24 months**

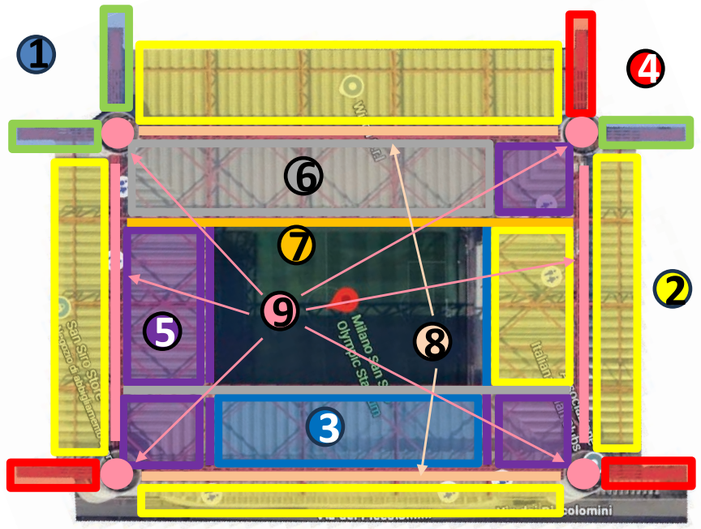
Steel Structures Activities:

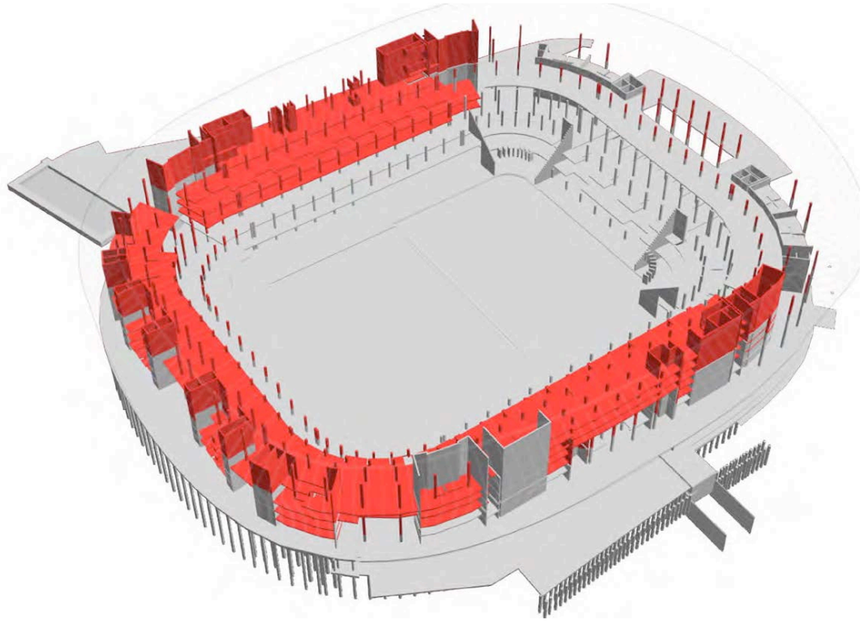
- Review of design documentation
- Verification and revision of the roof erection plan
- Verification of roof loads (technical equipment, event loads, and snow accumulation)
- Analysis of operational scenarios for the structure
- Verification of fixing solutions for steel decking, gutters, and building services installations

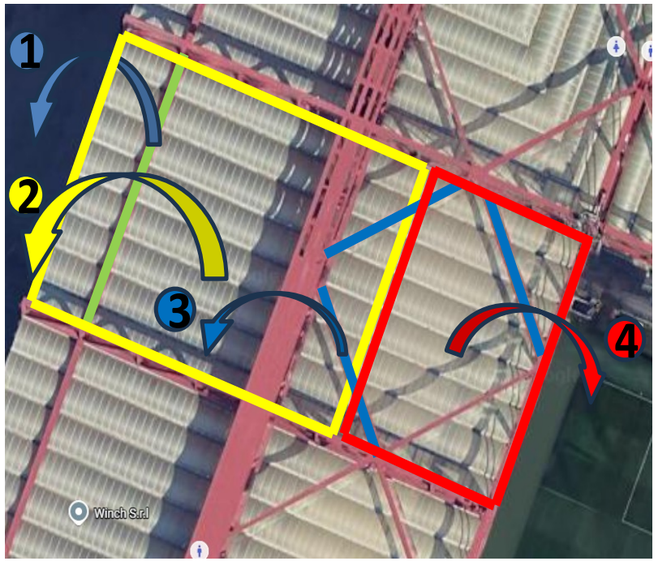








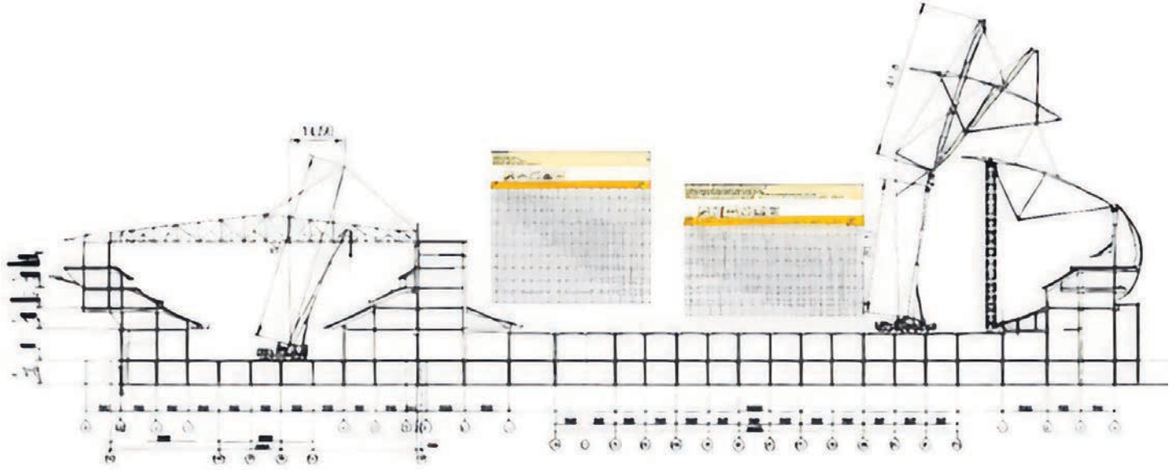




National-Level Sports Facilities

Development of preliminary demolition plans and erection methodologies for complex steel structures and roof systems within interventions on nationally significant sports facilities.

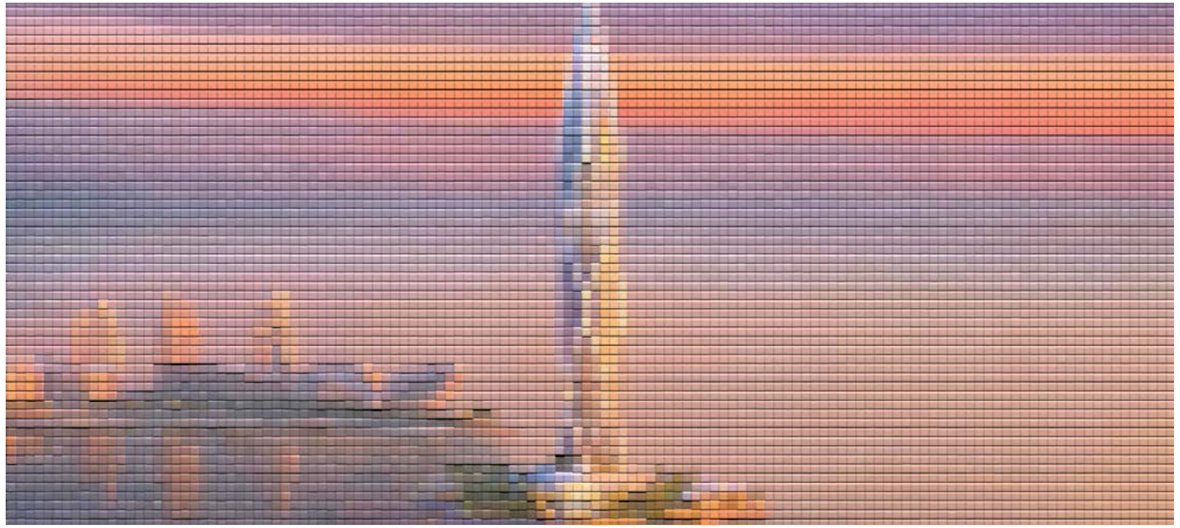
Specialist support during the preparation phase of the **Request for Proposal (RFP)** for **pre-construction services**, through the development of preliminary **Work Method Statements (WMS)** and the definition of the overall construction strategy.



Steel Structures Activities:

- Demolition plans for existing steel structures
- Preliminary erection plans for steel structures and roof systems
- Lifting operations, controlled lowering, and structural load transfer procedures
- Quantity take-offs and preliminary cost estimation for budget development


CONSTRUCTION



High Rise Tower

Luxury mixed-use skyscraper including a 5-star hotel, branded residences, duplex penthouses, lobby areas, restaurants, meeting rooms, spa and wellness facilities, and multi-storey parking. The development also features two independent mansions and leisure spaces including swimming pools, a gym, kids club, and padel courts. The 62-storey tower is founded on piles with reinforced concrete slabs. The typical floor is based on a composite structural system with concrete-filled steel columns, steel floor framing, and a reinforced concrete core. The building envelope integrates a unitized façade system with decorative cladding elements.

Client: **n.d.**
Structure: **Composite steel–concrete**
General Contractor: **n.d.**

Steel Weight: **~15,000 tons**
Construction Cost: **≈ €1.0 billion**
Duration: **39 months**

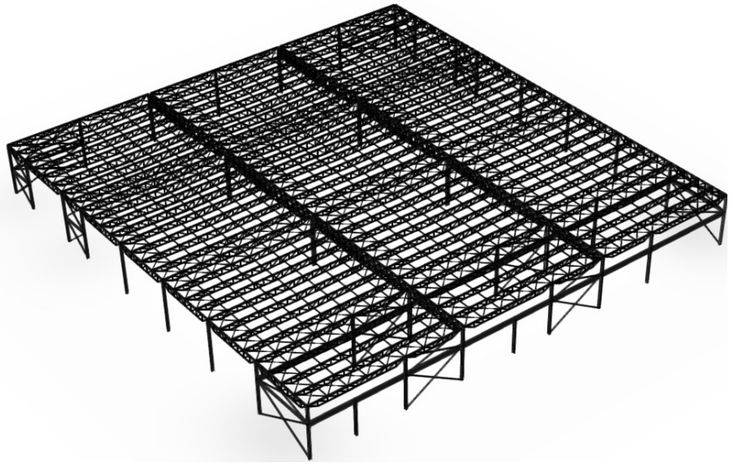
Steel Structures Activities:

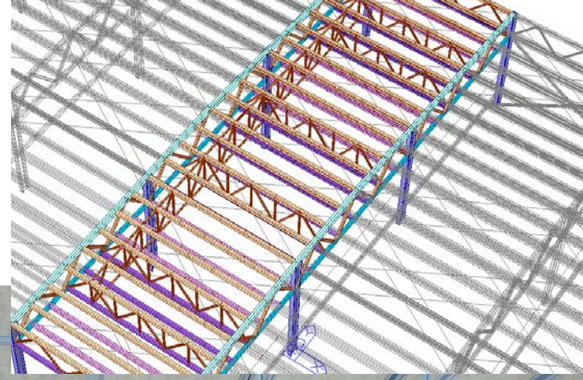
- Analysis and review of design documentation
- Extraction and verification of the Bill of Quantities (BoQ) from BIM models
- Development of a preliminary erection plan for the steel structures, including site layout and logistics strategy



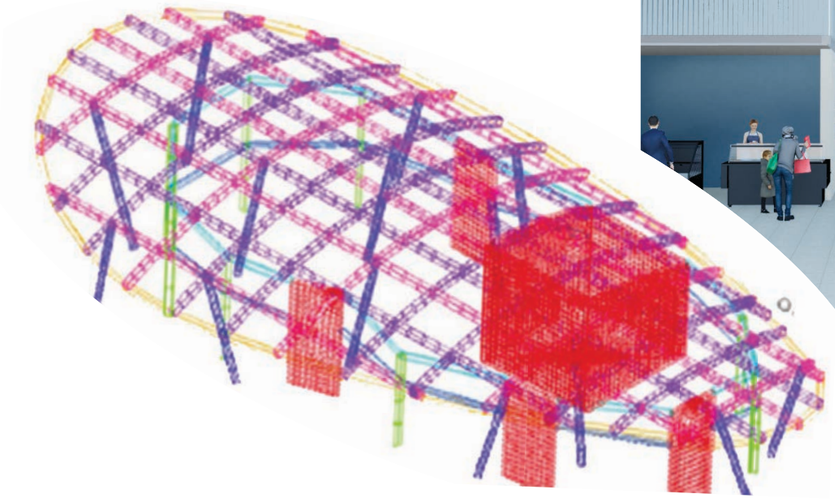












Edifici Industriali e Commerciali

Specialist engineering services for industrial and commercial buildings, including **technical and economic feasibility studies** and comparative analyses between structural solutions to support early-stage strategic decisions.

Development of **preliminary, detailed, and construction design** for steel structures, ensuring consistency between the architectural concept, engineering development, and practical feasibility in fabrication and on-site assembly.

Preparation of **structural calculation reports**, **quantity take-offs**, and **preliminary cost estimates** to provide a reliable framework supporting financial planning and investment control.

Client: **Various**
Structure: **Steel**
General Contractor: **Various**

Steel Weight: **< 1,000 tons**
Construction Cost: **€2–30 million**
Duration: **Variable**

Steel Structures Activities:

- Feasibility studies and comparative analyses
- Preliminary, detailed, and construction design of steel structures
- Structural calculation reports
- Quantity take-offs and preliminary cost estimation for budget development

Key Staff Experience

The team is composed of professionals with **extensive experience** in the planning and delivery of complex infrastructural and structural projects, developed through work on **national and international significant projects** characterized by demanding technical, logistical, and construction requirements.

The group's expertise includes involvement in strategic **infrastructure reconstruction programs**, the development of next-generation sports facilities, high-complexity office buildings, and major airport hubs featuring advanced architectural geometries and innovative structural systems.

The professionals involved have contributed to the development of **construction strategies, erection methodologies**, and **temporary engineering solutions** for large-scale steel structures, operating in contexts with high operational criticality and stringent requirements in terms of safety, quality, and schedule control, including:

- **VTB Arena**
  Central Stadium Dynamo.
  Location: **Moscow (RF);**
  Construction Cost: **560 Mln €**;
  Period: **2014- 2018;**
  Steel Weight: **15.000 ton**
- **Allianz Stadium.**
  Location: **Turin, Italy;**
  Construction Cost: **155 Mln €**;
  Period: **2010- 2011;**
  Steel Weight: **4.600 ton**
- **Genova San Giorgio Bridge**
  Location: **Genoa, Italy;**
  Construction Cost: **155 Mln €;**
  Period: **2019- 2020;**
  Steel Weight: **18.500 ton**
- **Intesa Sanpaolo Skyscraper**
  Location: **Turin, Italy;**
  Construction Cost: **250 Mln €;**
  Period: **2011- 2014;**
  Steel Weight: **15.000 ton**
- **New Mexico City International Airport**
  Location: **Mexico City, (MEX);**
  Construction Cost: **12 Bil. $;**
  Period: **2018- 2019;**
  Steel Weight: **90.000 ton**

This experience enables the team to effectively support all pre-construction and construction phases, ensuring an approach focused on constructability, risk management, and the optimization of overall project performance.

















B.Cube
Società di Ingegneria

Via Lodovico il Moro 25
20143 Milan, Italy

Tel.: +39 02 83 96 3165
Web: www.bcubeprogettazione.it
E-mail: info@bcubeprogettazione.it
PEC: b.cube@legalmail.it
Tax Code / VAT No.: 05765920961