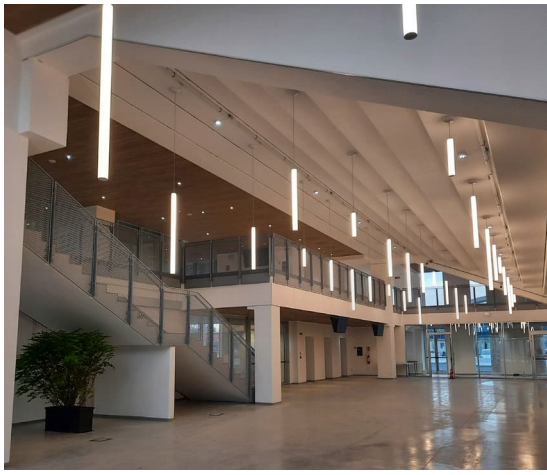
PRISMA
ENGINEERING













REFERENCES



PRISMA ENGINEERING

Civil and industrial engineering and design company



Company Profile

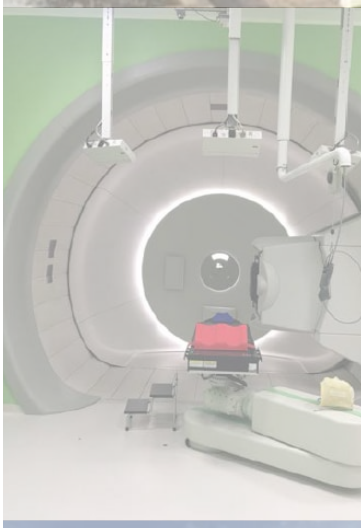
PRISMA ENGINEERING s.r.l. is an engineering company which for forty years has been engaged in design and construction management of major facilities in Italy and abroad. We operate in the fields of congress and executive facilities, hospitality, health and hospital facilities, research laboratories, clean rooms and nuclear facilities. The design is multidisciplinary, involves Civil and MEP Engineering and applies the most recent technological systems. We also carry out ambitious projects in the energy related fields, in collaboration with relevant players of the market. Experience, Innovation and Sustainability always guaranteed.
Human capital is the value on which our corporate culture is based. People, with their diversity, continue to bring development and knowledge. We have a dynamic, vibrant, multidisciplinary team to whom we offer professional growth and specific training. We look at commitment and work performance but also at well-being of the team, dialoguing in order to live well at work as welll

One partner, an established multidisciplinary experience

One of our main strengths is a **multidisciplinary team** which enables the company to offer a complete service and project control. The Team is made up of Architects, Landscape Architects, Structural Engineers, Civil Engineers, Mechanical Engineers, Electrical Engineers, Surveyors, Industrial Experts, IT and Automation Specialists, Safety and FSE Specialists, BIM Specialists, Technicians with expertise in acoustics, Supply and Shipping Management Specialists and Project Management.









Services

- Architectural and structural design
- Mechanical engineering
- Electrical and special systems engineering
- Construction supervision
- Safety and fire safety engineering
- IT and automation
- Environment and energy aspects
- Project and construction management
- Turnkey projects
- Specialist consultancies

Area of expertise

HEALTHCARE AND RESEARCH
Hospital complexes, diagnostics and operating departments, analysis laboratories, clean rooms and outpatient clinics

INDUSTRIAL
Production facilities, industrial processes

COMMERCIAL AND EXECUTIVE
High rise buildings, offices, convention and shopping centers, showrooms

RESIDENTIAL AND TOURISM
Residential and luxury buildings, hotels, tourist facilities, refurbishment of historic buildings

EDUCATIONAL
Public cultural buildings, school and university buildings

LEISURE
Cinemas, theme parks, sports centers and museums

AIRPORT FACILITIES
Maintenance hangars and ground services

ENERGY
Energy efficiency and sustainability studies, use of renewable energy sources, upgrading, certification and energy diagnosis of buildings, research and innovation



Policy

PRISMA ENGINEERING SRL is committed to constantly pursue and spread the objectives of continuous improvement in the fields of Quality, Environment, Occupational Health and Safety, as an integral part of its business and as a strategic commitment related to the more general purposes of the Company, always considering internal and external factors, stakeholders, risks and opportunities.

PRISMA ENGINEERING SRL has always been committed to the pursuit of business goals, founding itself on full awareness of the centrality of the human factor, in every activity of its organization.

Management is committed to:

1. Strictly comply with the legislation applicable to the products/services provided, as well as the requirements that the company has voluntarily signed up to.

2. Constantly promote actions and activities, in order to bring continuous improvement, with regard to environmental quality and occupational health and safety aspects.

3. Ensure safe and healthy working conditions that enable the prevention of occupational injuries and illnesses.

4. Ensure, with consistent proactivity over time, the prevention of pollution and environmental impact deriving from company processes and products, considering where possible a life-cycle perspective.

5. Eliminate sources of danger and reduce occupational health and safety risks, in line with the ever evolving technical and economic possibilities.

6. Maintain conditions that allow systematic consultation and, where applicable, participation, of workers and outsourcers in improving the performance of the organization and its integrated management system.

7. Ensure that all workers share and are aware of the Company's goals and the responsibilities that each of them has in ensuring their achievement.

8. Promote staff motivation at all levels through means of regular meetings describing the company's strategy and the goals achieved.

9. Monitor planned improvement goals, evaluate the effectiveness of actions taken, assess any deviations, and take timely corrective actions to reduce potential risks to the organization

10. Ensure excellence level of the product, the work and the service provided to customer, ensuring technological innovation with an eye always on customer needs and satisfaction, with periodic assessments in order to monitor and implement any actions necessary for improvement.

11. To achieve ever-increasing competitiveness in order to gain significant market share through improved efficiency and internal cost control.

Certifications

In always wanting to improve, we have achieved the following certifications: ISO 9001 (since July 2001), subsequently updated to ISO 9001:2008 and **ISO 9001:2015**; **ISO 14001:2015** in 2018; **ISO 45001:2018** in 2020. Prisma Engineering also achieved **UNI/PdR 125:2022** certification for gender equality in 2024 and the **ISO 13485:2016** for design of medical gas distribution systems (MGDS) in 2026.





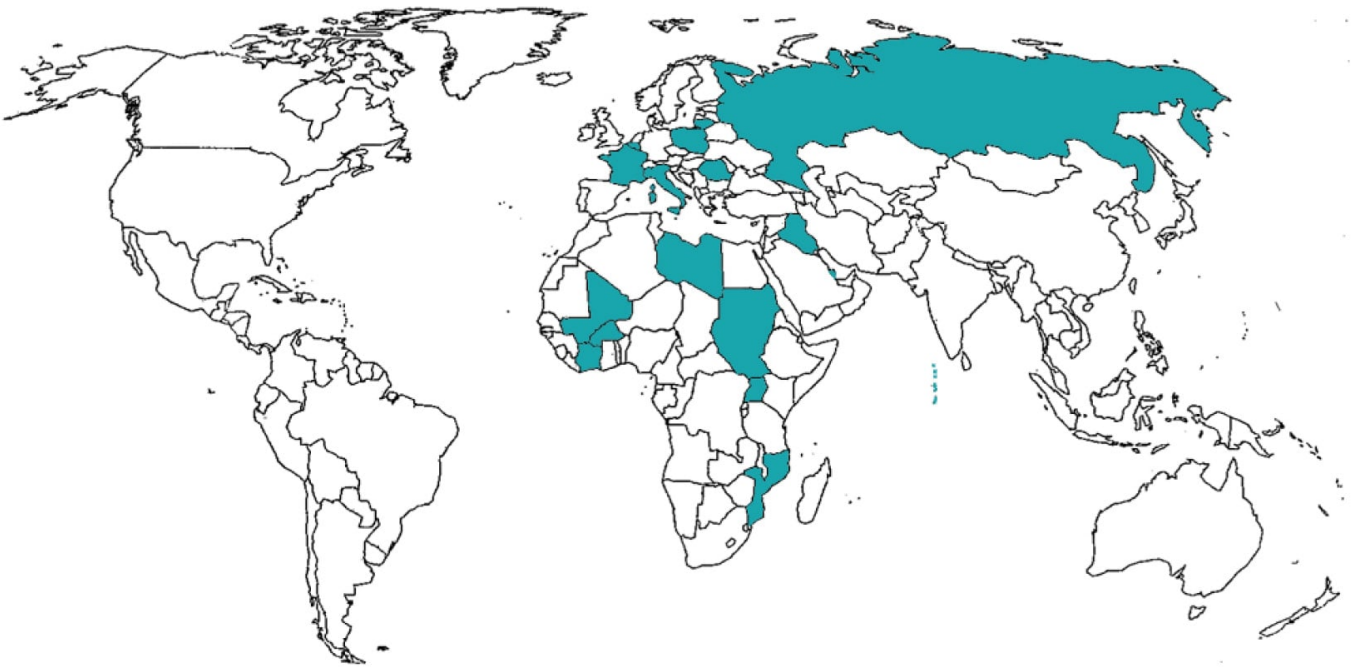






International presence

Thanks to our experience and specialization, we have collaborated with various realities in countries around the world.



EUROPE

Italy
France
Belgium
Malta
Romania
Lithuania
Poland

AFRICA

Libya
Uganda
Sudan
Mozambique
Mali
Burkina Faso
Ivory Coast

MIDDLE EAST - ASIA

Iraq
Kurdistan
Qatar
Maldives
Russia



New Radiotherapy Unit, I.O.V. Veneto Oncology Institute of San Giacomo Hospital

Location: Castelfranco Veneto (TV), Italy
Design period: 2020 - 2022
Works management period: 2023 - ongoing
Size: 2.767 sqm

General coordination, final architectural and structural design, electrical and mechanical systems. Fire prevention. Safety coordination during design and building phases.
Building management

The Veneto Oncology Institute carries out its functions and activities of cancer prevention, diagnosis and treatment according to a model that is widespread throughout the region, combining highly specialised hospitalisation and treatment services with intensive biomedical research. In order to expand its current services, the Castelfranco Veneto site was identified as an ideal location for the construction of a new radiotherapy facility.
The new building, covering a total area of 2,767 m², will house three shielded radiotherapy bunkers for linear accelerators, a hybrid Linac-RM bunker, a centring CT scanner (Simultac), as well as spaces connected to these activities, such as clinics, doctors' offices, TPS classrooms, reporting rooms, reception, waiting rooms and changing rooms.
The complexity of the project required an integrated approach able to combine radiation protection and shielding requirements, environmental comfort, accessibility, sustainability and high energy efficiency through the application of high-tech systems, air conditioning and medical gas distribution systems, special systems, photovoltaics and uninterruptible power supply systems.

The new radiotherapy facility has been designed to interfere as little as possible with the activities of the existing hospital, preserving the surrounding historical context and landscape, between the hospital building monobloc and the historic garden of Villa Revedin-Bolasco. The guiding principles influencing the design choices were the use of sustainable, durable and easily maintainable materials and technologies, favouring simplicity in management and the possibility of future transformations. The functional characteristics of the site required particular attention to volumes and cladding materials, with the aim of creating a hospital environment that is also a familiar, empathetic workplace and care facility open to the surrounding greenery















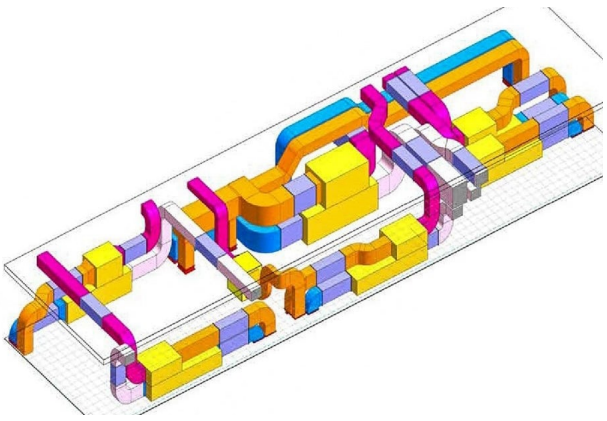


The New Radiotherapy Centre is a single-storey independent building with an additional roof structure to house the MEP systems.

The rectangular floor plan is divided into three macro-areas: public area (lobby, waiting rooms, clinics, doctors' offices), technical and support area (reporting rooms, classrooms, waiting areas, changing rooms, storage rooms) and radiotherapy bunker area (three for Linac accelerators, one for 1.5T high-field Linac-RM, CT area).

In order to create a familiar and empathetic environment for patients and staff, four internal courtyards and large floor-to-ceiling windows have been installed, thus enhancing the therapeutic value of natural views. Furthermore, as the building is located in a prestigious architectural context and landscape, external masking solutions have been adopted, such as a ventilated façade made of reflective aluminium panels and wood cladding.
The structures feature reinforced concrete pillars and partitions, solid reinforced concrete bunker walls up to 2.20 m thick (cast in double formwork with C16/20 concrete filling), structural joints with shear connectors and slab foundations with compaction piles and jet grouting.

The MEP systems designed for the New Radiotherapy Centre focuse on maximising the use of locally available renewable energy sources, such as low-enthalpy geothermal energy, aerothermal energy from the outside air, electricity from photovoltaic systems and heat recovery from condensation through the use of multi-purpose units. They also include a consumption monitoring system connected to the BMS supervision system.
In general, the systems have been chosen and designed according to principles of max technological innovation and max environmental comfort and they are all BMS-compliant in accordance with EN 15232: Class A "High Energy Performance", which corresponds to "high energy performance" BAC (Building Automation & Control) and TBM (Technical Home and Building Management) systems.







Radiotherapy - Monselice Hospital

Location: Monselice (PD), Italy
Period: 2016 - 2018
Size: 1.900 sqm

Preliminary, final and executive design of civil works, mechanical and electrical systems and equipment layout for bunkers. Construction supervision

The project for the construction of the new Radiotherapy Service at the Mother Teresa of Calcutta Hospital involves the construction of a single-story, detached building connected to the existing hospital by a glass corridor, equipped with an external canopy capable of accommodating ambulances arriving with patients via an internal road system.
The building has a section dedicated to radiotherapy rooms on the north side and an entrance with waiting rooms, consultation rooms, bathrooms and storage rooms on the south side. In particular, the interior areas of the newly designed building have been sized in accordance with current health and hygiene regulations and specifically created for the purpose of the rooms that the new building will house, such as the radiotherapy bunker area, waiting rooms, examination rooms, corridors, clinics and toilets, organized and structured to accommodate stretchers and wheelchairs.
All external routes have been designed to facilitate wheelchair users or people with reduced mobility and are wide enough to allow two-way traffic and easy changes of direction. The flooring has been designed with non-slip, level materials and, where there are differences in height, the different levels are connected by gentle slopes that can be easily negotiated by people with limited mobility.





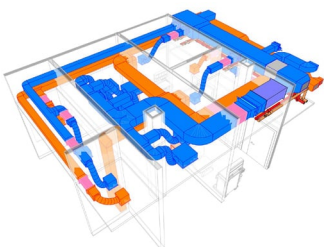
New Nuclear Medicine Department

Location: PO Nuovo Ospedale Apuano, Massa - Italy
Period: 2024
Total surface area: 2.700 sqm

Technical and economic feasibility study

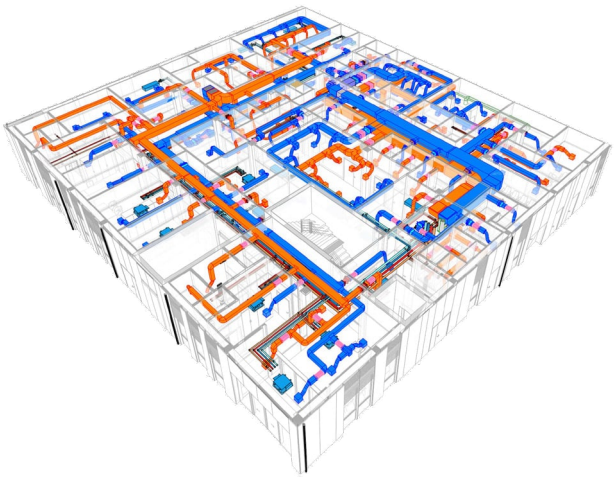
The new Nuclear Medicine department at the Apuano Hospital in Massa is designed as an autonomous facility that is perfectly integrated into the existing hospital complex and the healthcare network of the North-West Tuscany Local Health Authority and will serve a catchment area of over 360.000 inhabitants.

The project involves the creation of an advanced diagnostic department dedicated to nuclear medicine, equipped with state-of-the-art imaging equipment (Gamma Camera and PET/CT) and spaces for the internal production of radiopharmaceuticals, thus ensuring operational autonomy and speed in diagnostic processes. The design is based on compliance with the highest hospital standards, biosafety requirements and radiation protection regulations, with particular attention to the functional organization of spaces and pathways to ensure safety, efficiency and quality of performance. The entire building and plant system is designed with flexibility and sustainability in mind, providing for future expansion and ensuring the long-term durability of the infrastructure and services offered.



The project integrates high-level technological solutions to ensure diagnostic quality, radiological safety and operational efficiency:

- Separate routes for patients, staff and materials, reducing the risk of contamination.
- Accessibility with ramps and stair lifts.
- Lead shielding for the containment of ionizing radiation.
- Dedicated HVAC systems with air treatment and filtration for “hot” areas.
- Radiopharmaceutical production plant.
- Photovoltaic system and high energy efficiency systems (multi-purpose heat pumps, rainwater recovery).



Construction of the new Mater Salutis hospital in Legnago

Location: Legnago (VR), Italy
Period: 2023 - 2026
Beds: 350
Size: 62.500 sqm

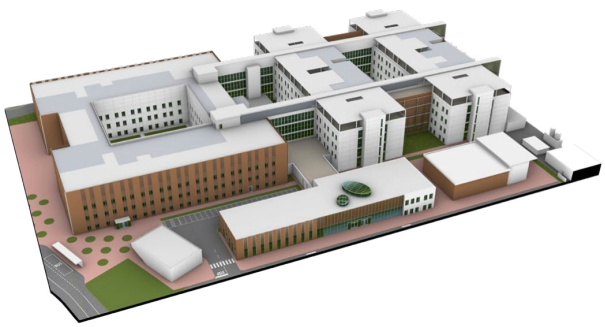
Technical and economic feasibility study, final and executive design of mechanical, electrical and special systems.
Fire prevention design

The project for the new Mater Salutis Hospital in Legnago is part of a wider healthcare network renewal program, with the aim of providing a modern, highly functional, technologically advanced and sustainable facility.

The design is not limited to responding to immediate clinical needs, but aims to create a building that can evolve over time, adapting to future scenarios thanks to modular and easily reorganizable spaces.
The hospital is conceived as a state-of-the-art facility not only from a medical point of view, but also in terms of architecture, systems and management, with a focus on user comfort, safety and energy savings.

The design approach guarantees:

- Functional rationalization of routes.
- Reduction in management and maintenance costs.
- Optimization of surfaces.
- Adaptability to pandemic or extraordinary scenarios thanks to compartmentalized and modular configurations.
- Separation and safety of logistics, healthcare and plant flows.
- Flexibility for future expansions or functional changes.
- High attention to environmental sustainability and energy efficiency with a particular focus on reducing energy consumption.

















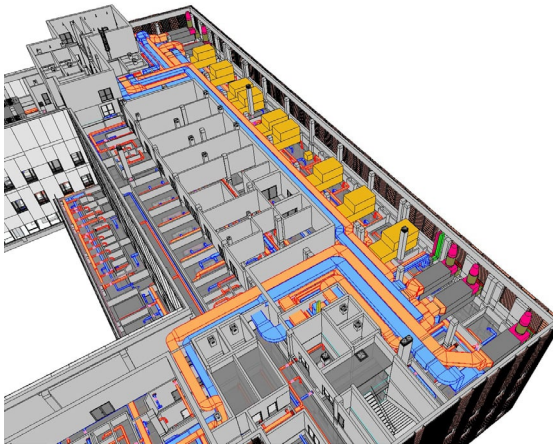
The plant design for the new hospital was developed with safety, energy efficiency and operational continuity in mind, integrating innovative and flexible solutions.
The plant system is designed to meet the complex needs of a high-intensity healthcare facility, with the possibility of fine adjustment for each department and sectioning of areas.

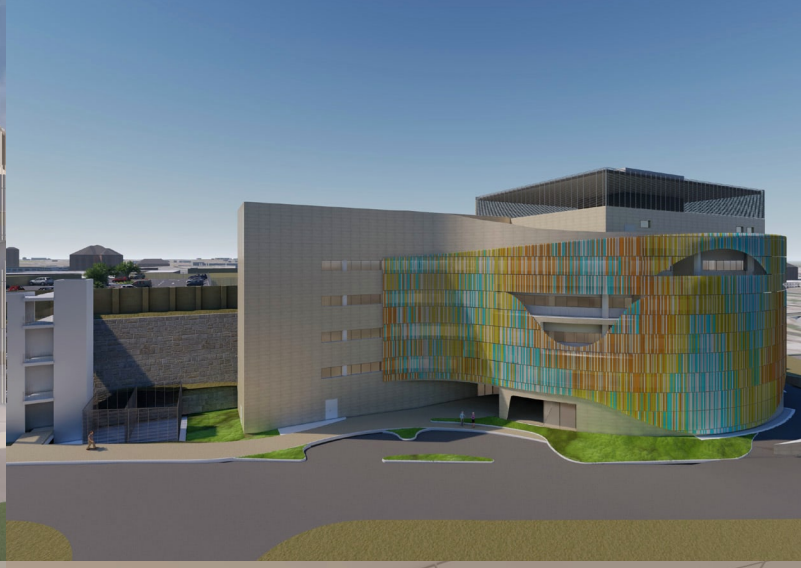
The mechanical systems guarantee comfort, hygiene and reduced consumption thanks to mixed air conditioning systems, high-efficiency heat pumps, energy recovery and centralized management via BMS.
There are also safe water systems, rainwater recovery, medical gas plants, and equipment dedicated to high-care areas.



The electrical system of the new hospital has been designed with maximum safety, redundancy and management flexibility in mind.
The system is based on a redundant network with MV/LV substations, generators, UPS and KNX-controlled LED lighting, supplemented by a photovoltaic system and special systems, which are also monitored by the BMS.
Fire prevention is ensured by compartmentalization, safe escape routes, hydrants, smoke detection and audible evacuation systems, connected to the new fire control center and with special protection for critical risk areas.







Paola Health Care Vincent Moran Regional Hub, Malta

Location: Paola, Malta
Period: 2017 - 2022
Size: 10.000 sqm
Beds: 60

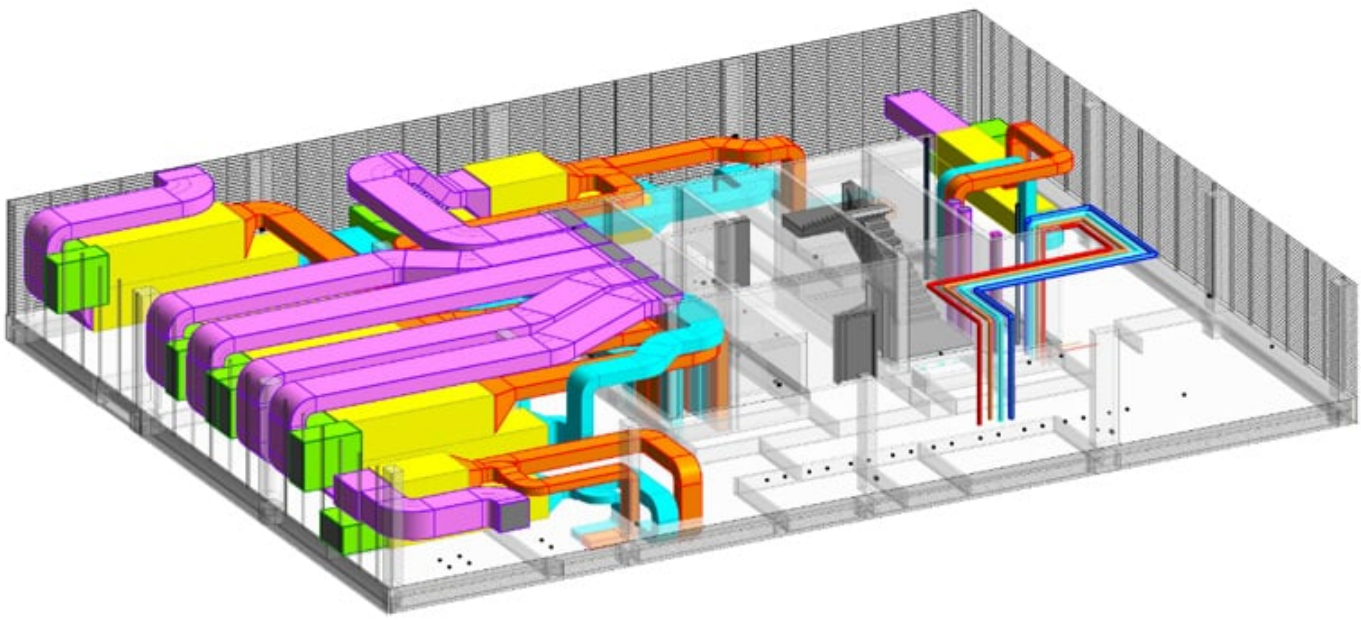
Final and executive design of systems and fire prevention

The Vincent Moran Primary Healthcare Hub is a technologically advanced and functional healthcare facility serving the community in the southern part of the island. With a total area of over 10,000 square meters on seven floors, the new healthcare center is equipped with an emergency room, outpatient and day hospital services, operating rooms and radiology rooms.
The LEED Silver protocol has been proposed for the facility as a sustainability goal to be achieved through passive solutions, system efficiency, optimization of construction processes and the use of renewable energy.

Particular attention has been paid to ensuring internal environmental comfort, differentiated according to the intended use of the rooms.
The new building has been designed with the aim of reducing maintenance and management costs throughout its life cycle, maximizing energy efficiency, minimizing environmental impact and integrating functionality and aesthetics.



For the architectural works, sustainable materials were chosen for the cladding, designed to achieve high efficiency of the external envelope.
The plant engineering project, on the other hand, focused on creating an innovative, low environmental impact building that requires simple maintenance and aims to save energy, thanks to the use of renewable energy sources and continuous monitoring of consumption, integrating functionality and aesthetics wherever possible.





New Hospital in Vibo Valentia

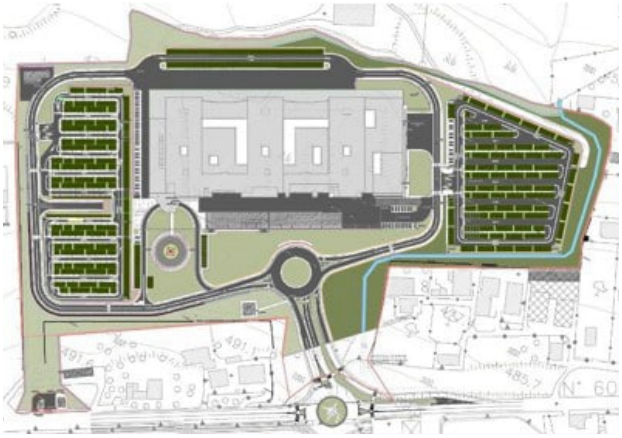
Location: Vibo Valentia, Italy
Period: 2015 - 2024
Beds: 450
Seismic zone: 1
Building energy class: A4
Total area: 50.000 sqm

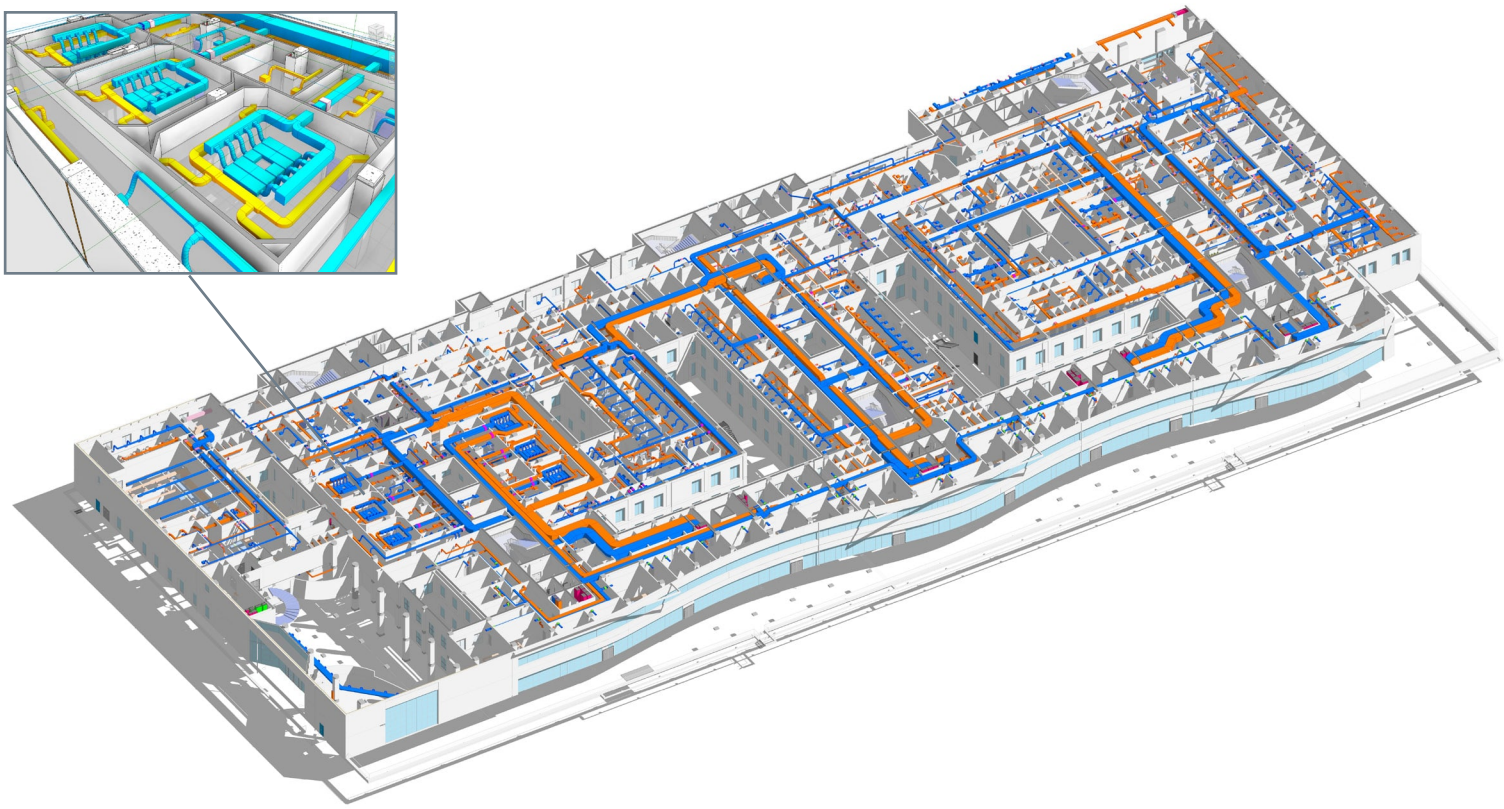
Preliminary, final and executive design of mechanical and electrical water and sanitation systems, fire prevention, acoustics, safety coordination during the design phase

The New Hospital in Vibo Valentia is a project that combines technological innovation, organizational flexibility and focus on people. The functional layout and clarity of the spaces ensure a modern, safe and welcoming environment that can meet current needs and adapt to future ones.
The project is based on the idea of innovation, with the aim of putting people at the center of the design and organization of spaces. Attention is focused not only on the needs of patients, but also on those of healthcare staff and family members.

The clear layout and rational organization of spaces reflect the desire to make routes easy to follow, distinct and safe, facilitating orientation, mobility and the transport of materials, but also promoting communication and interaction between departments.

The hospital has been designed as a flexible and modular structure, capable of adapting to present and future needs through the reconfiguration of functions and the proximity of services that must operate in close collaboration. This approach is made possible by a distribution system organized on an orthogonal grid, which ensures rationality and clarity, while also guaranteeing the possibility of reconverting spaces.
Attention to environmental quality is also central: furnishings, finishes, colors and lighting solutions have been designed to create a comfortable, informative and welcoming environment, capable of supporting care processes and improving the experience of those who live in the hospital.



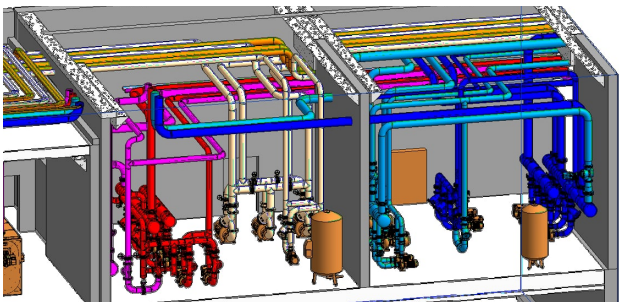


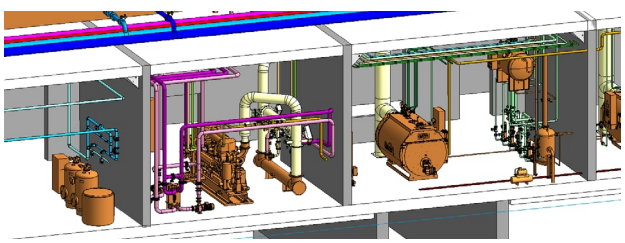
The new hospital in Vibo Valentia is designed as a set of functional volumes, with a service platform and an E-shaped ward block, open towards the landscape and the sea.
The internal layout, based on an orthogonal grid, ensures clear pathways and great flexibility, allowing the spaces to be adapted to different healthcare functions.

Careful attention has been paid to the building's integration into its surroundings, preserving the existing agricultural landscape and introducing sustainable solutions, such as drought-resistant native plant species.

From a structural point of view, the building is designed to guarantee the highest anti-seismic standards, with reinforced concrete systems and specific construction solutions for technological centers and ancillary buildings, so as to ensure operational continuity even in the event of critical events.

From a plant engineering perspective, the hospital is designed as an nZEB building in energy class A4, with systems designed to ensure maximum efficiency, ease of management and reduced maintenance costs.
The mechanical systems prioritize energy recovery, ease of inspection, and component standardization, with modular solutions and redundant machines that ensure service continuity and consumption optimization. Particular attention has been paid to the integration of renewable sources, through multi-purpose units and systems for the combined production of thermal and cooling energy.
The electrical and special systems have been developed according to criteria of flexibility and future adaptability, with oversized lines, ducts and busbars that guarantee expansion without invasive interventions.
The widespread use of LED technology, centralized supervision systems and intelligent lighting control contribute to energy savings, while safety and reliability are ensured by redundancies and functional reserves. The picture is completed by renewable energy systems, with a photovoltaic system on the parking lot canopies capable of generating over 1 MW of energy per year, contributing significantly to the overall sustainability of the structure.





Construction of service block, new access points and technology centers

Location: Feltre (BL), Italy
Period: 2009 - 2012
Size: 13.165 sqm

Final and executive design of civil works, structures, mechanical, electrical and special systems. Safety coordination during the design phase

The project represents an important step towards organizational rationalization and consolidation of the hospital improvement process, allowing for the concentration of similar functions currently distributed throughout the facility. The project involves the construction of civil works, mechanical systems, electrical systems and special systems for the construction of new buildings with the following purposes: access building, technical platform and technology center.

Key principle of the service: everything must revolve around the person and their needs.

Project objectives achieved:

- Highly unified layout combining new and existing buildings;
- Strong “openness” to the city;
- Reorganization of external traffic with diversification based on users, urgency and/or priority;
- Creation of a network of parking lots minimizing land use and environmental impact;
- Internal distribution layout aimed at enhancing communications;
- Modification of external traffic based on distribution and composition choices;
- Enhancement of greenery and the surrounding environment through the redevelopment of the tree-lined main access avenue, creation of gardens, green spaces inside the hospital and grassy slopes;
- Enhancement of fire safety through the increase/expansion of escape routes and compartmentalization.

















Children's Surgical Hospital

Location: Entebbe, Uganda
Period: 2013 - 2018
Beds: 72 for patients, 42 for family members
Size: 9.577 sqm

Preliminary, final and executive design of mechanical, electrical and special systems

The new Center of Excellence in Pediatric Surgery designed by Renzo Piano stands on the shores of Lake Victoria and is a landmark for the whole of East Africa, not only from a healthcare perspective, but also in terms of architecture and design.

The Center is equipped with ISO 5 operating rooms, intensive care units and analysis laboratories. The hospital is divided into four pavilions: two main buildings side by side and arranged along the east-west axis, closed to the east by a transverse volume that creates a central tree-lined courtyard and a fourth independent building to the south for reception and access control. The volumes integrate with the terrain, following its morphology and extending over two partially underground floors. The project is completed by large spaces for training local staff, designed to ensure the autonomous and competent management of the facility over time.
From a construction point of view, the hospital combines traditional building techniques with modern solutions: the rammed earth walls, made from excavated soil, are integrated with steel and glass elements, creating a sustainable and technologically advanced architecture. The interiors, with light and modular finishes, are designed to ensure comfort, acoustic and thermal insulation and maximum flexibility of use.

The mechanical and hydraulic systems are designed with simplicity of management, energy efficiency and continuity of service in mind. The air conditioning system differentiates areas according to their functions, ensuring high hospital standards for operating theatres, laboratories and radiology and more efficient and adaptive solutions in other departments. Heat recovery systems, air handling units with VAV control and high-efficiency heating/cooling are planned, with extensive use of natural strategies and renewable sources.

The electrical systems ensure reliability and redundancy: energy comes from the grid, a 398 kWp photovoltaic system and three 1,400 kVA generators to ensure full autonomy in case of emergency. Service continuity is ensured by UPS units dedicated to critical areas such as the operating theater, intensive care, IT systems and medical gas production, so as to guarantee functionality even in extreme conditions.

Expansion and renovation of the Asiago Hospital

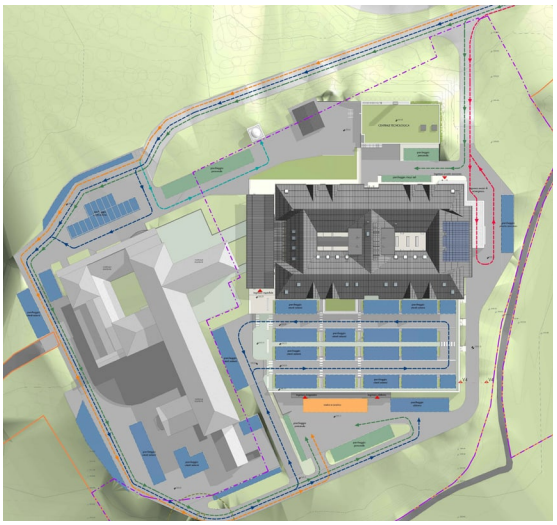
Location: Asiago (VI), Italy
Period: 2013 - 2013
Size: 14.150 sqm

General coordination.
Executive design of civil works, mechanical, electrical and special systems

The Asiago Hospital complex aims to meet the healthcare needs of the population of all seven municipalities in the Altopiano area, but it must also respond to significant fluctuations due to massive tourist influxes.

The project stems from the desire to renovate and adapt the existing hospital complex to new requirements, thanks to the construction of a new building to the south of the existing complex, connected to the historic block and capable of housing acute care wards and diagnostic and rehabilitation facilities.
The internal layout has been designed to ensure separate routes, operational continuity and environmental comfort, thanks also to large internal courtyards and a centralized vertical connection system. The building blends perfectly into the surrounding area, with volumes that follow the contours of the land and materials consistent with mountain architecture.

In terms of systems, the complex is equipped with underground technology centers, accessible for maintenance without interfering with hospital activities and a high-continuity electrical system.

















6 operating rooms for the East Block in Dolo

Location: Dolo (VE), Italy
Design period: 2024
Works period: 2025 - ongoing
Rooms: 3 ISO 7 rooms and 3 ISO 5 rooms
Size: 2.700 sqm

Executive design of construction works, mechanical, electrical and special systems, fire prevention, safety coordination during the design phase. Construction management

The design of the new operating theater at Dolo Hospital (Venice) is a highly complex technical and functional project aimed at creating a state-of-the-art surgical ward within an existing and fully operational hospital.
The project, developed entirely using BIM methodology, includes six operating rooms—three classified as ISO 5 and three as ISO 7—with spaces dedicated to robotic surgery and highly contagious infectious patients.
The design pursued maximum continuity of healthcare services, adopting dry construction solutions and organizational strategies aimed at avoiding interference with clinical activities on the lower floors.

From an architectural point of view, the layout is designed to ensure separation between clean/dirty and staff/patient areas, guaranteeing safety, hygiene and functionality.
The modular, prefabricated rooms are equipped with antibacterial panels, automatic sealed doors, and easily sanitizable surfaces, with bright environments and fully controllable microclimates.

The systems, which are fully integrated and managed by a BMS system, include dedicated AHUs with H14 absolute filters, anti-legionella systems, medical gases, high-efficiency LED lighting and medical UPS power continuity systems. The design approach focused on energy efficiency, safety, and sustainability, ensuring maximum environmental and operational control.







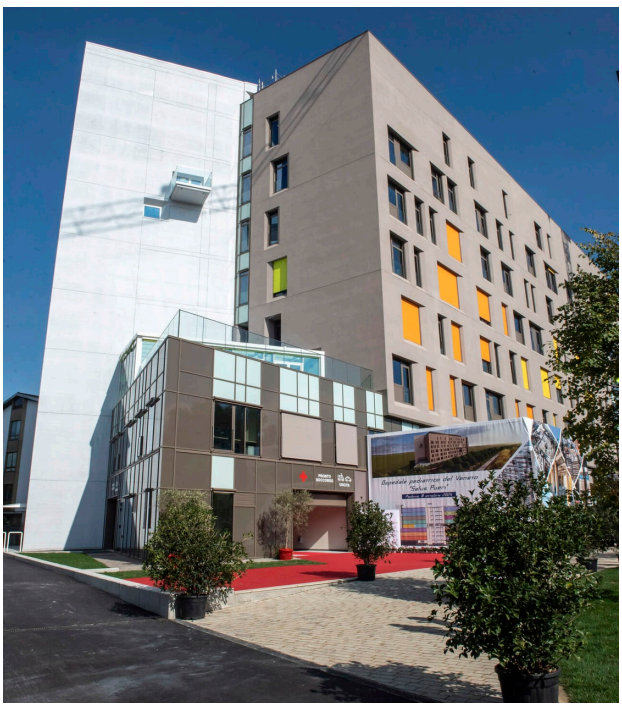

Construction of 6 operating rooms for the new Pediatrics Department of Padua Hospital

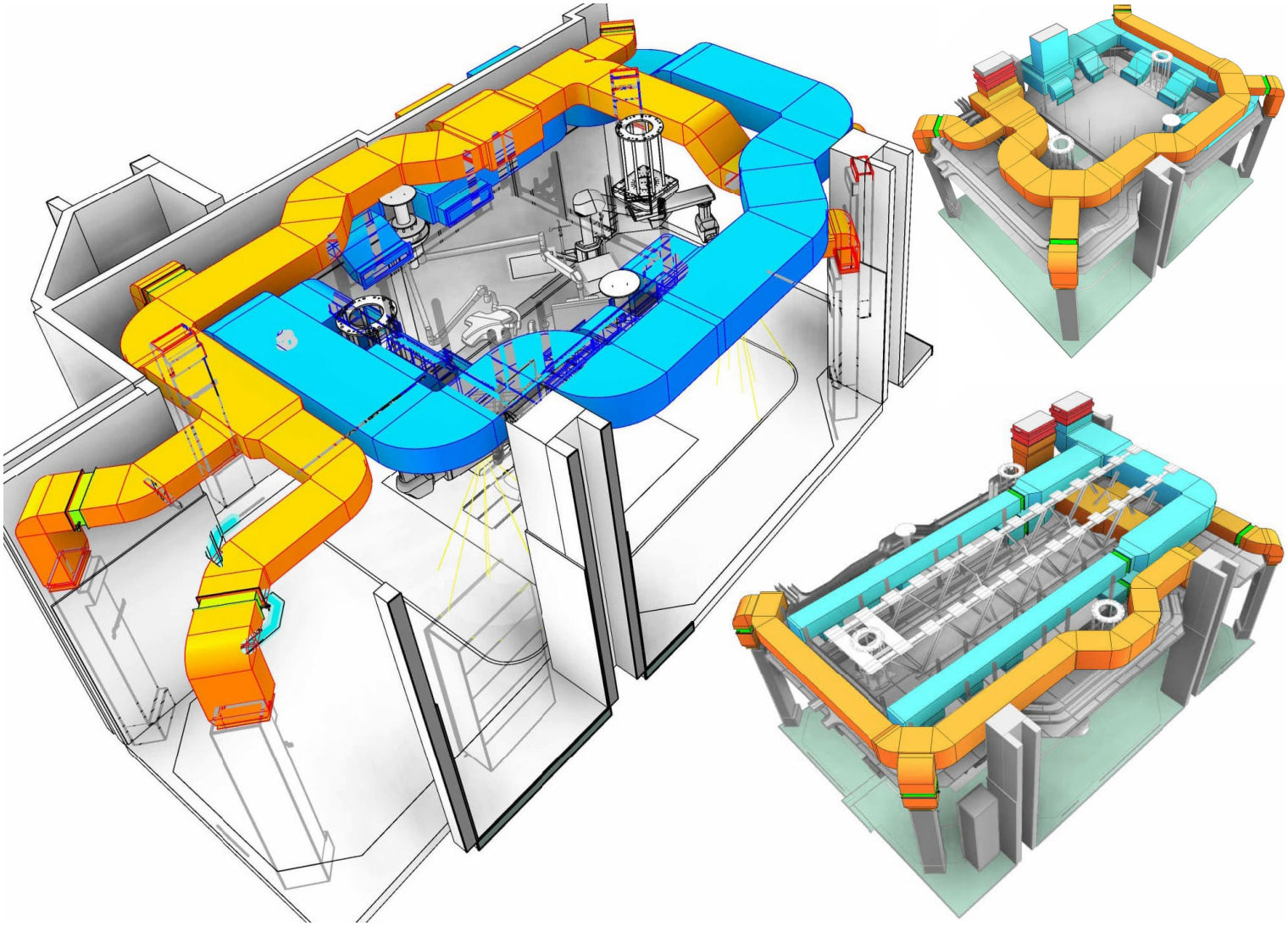
Location: Padova, Italy
Period: 2024
Size: 9.577 sqm

Executive design of mechanical, electrical and special systems

The project involves the completion and fitting out of the operating theater complex of the new Pediatrics Department in Padua, with 6 high-tech operating rooms and support rooms, located on the 7th floor of the building. The project is a highly technological and innovative undertaking, aimed at creating a modern, safe and efficient operating environment, in line with the highest international hospital standards.
The operating rooms have been designed to ensure maximum operational efficiency, with particular attention to the flow of personnel, patients, equipment and materials entering and leaving the rooms. Each room has been studied in detail to optimize the layout of the spaces and technological equipment.

Of particular note is the hybrid room, equipped with a biplane angiograph, which allows complex surgical procedures with intraoperative imaging.



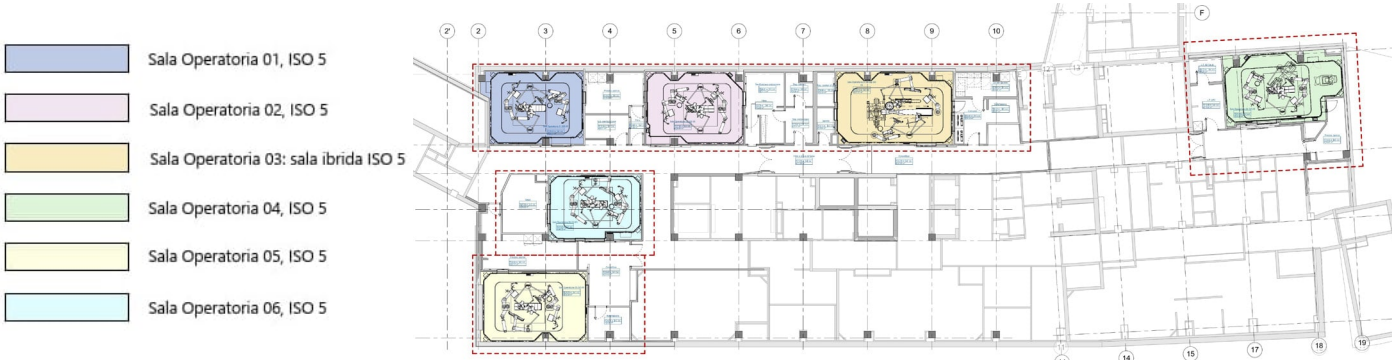


The project involves the completion and integration of the infrastructure necessary to ensure safe, hygienic and high-performance environments, with solutions designed to achieve:

- Maximum hygiene and safety for patients and healthcare professionals;
- Energy efficiency, thanks to advanced technologies and automated control systems;
- Integration with medical equipment, ensuring the highest level of operational performance;
- Compliance with international regulations, ensuring working environments that meet high standards.

The mechanical systems guarantee ISO 5 and ISO 7 sterile conditions through advanced air handling systems with high-efficiency filter ceilings, sensors, and automation for safety and energy efficiency. Thanks to the NICFA Eyes sensor, consumption is optimized by activating ventilation only when activity is detected.

Electrical and special systems ensure operational continuity, equipment protection, adjustable LED lighting and centralized supervision via BMS, which constantly monitors environmental parameters, optimizing temperature, humidity and air quality







Supply and construction of an operating theater at the Santo Spirito hospital

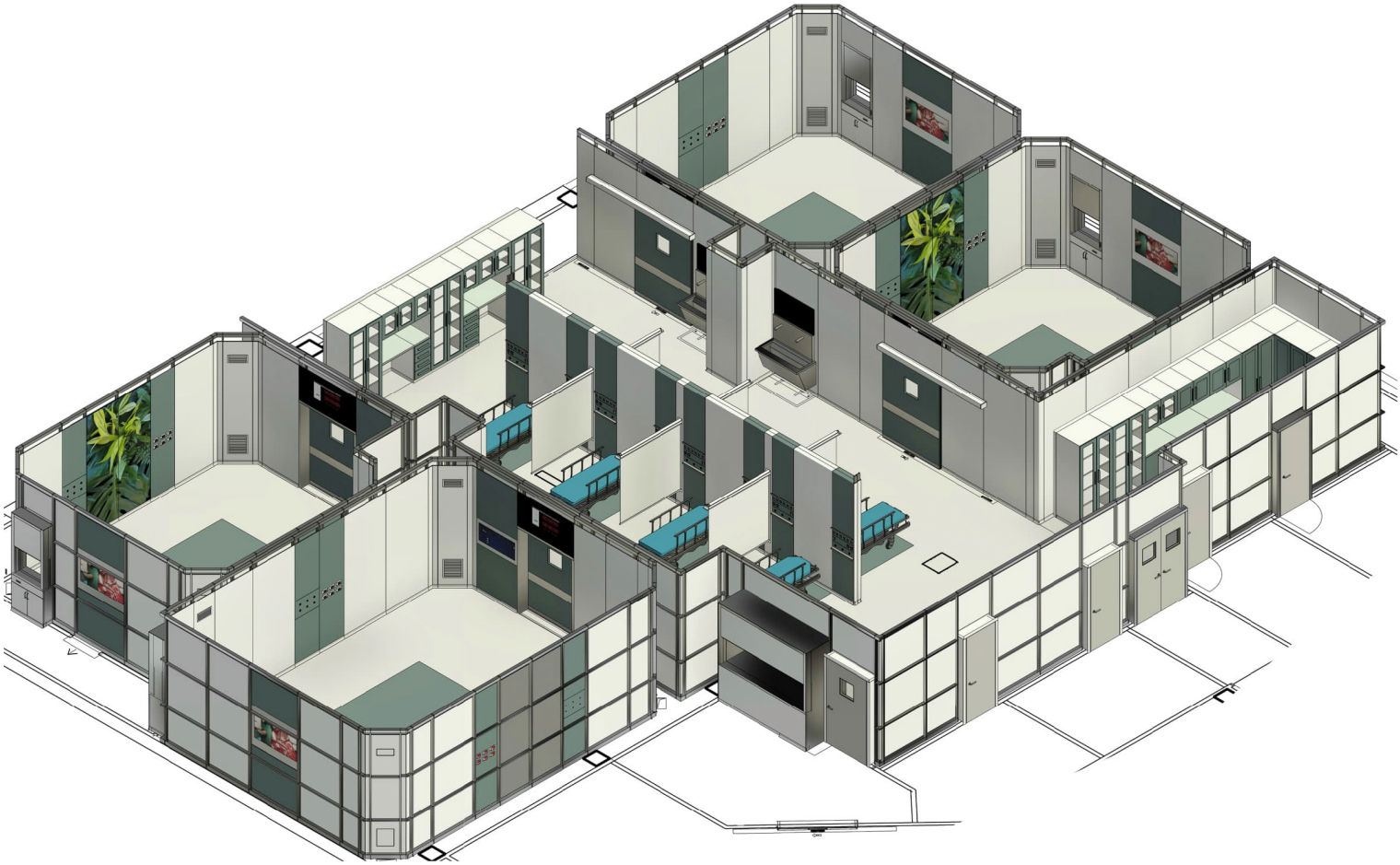
Location: Pescara, Italy
Period: 2022
Size: 787 sqm

Final/executive design of civil works, mechanical, electrical and special systems, Safety Coordination during the Design phase

The service involves the construction of a temporary operating theater consisting of 4 ISO 5 operating rooms, accompanied by ancillary rooms (preparation, recovery, staff areas and dedicated routes) and complete with all the plant equipment, biomedical equipment and fixed furnishings necessary for operation.

The architectural and plant design was developed taking into account clinical and healthcare requirements and regulatory constraints, with solutions designed to minimize the impact on existing structures and hospital activities. Particular attention was paid to integration with the existing system and the adoption of safe and reliable technologies.
The main objectives of the project are:





- To ensure differentiated and safe routes between clean, dirty and sterile areas, with separation and progressive decontamination;
- To organize internal flows (instruments, linens, waste, sterile materials) efficiently and in compliance with safety standards;
- Equip facilities with reliability through redundancy and backup, high security, as well as flexibility and modularity to adapt to future hospital needs.





New laboratories for the Experimental Zooprophylactic Institute of the Venetian Region

Location: Buttapietra (VR), Italy
Period: 2015 - 2016
Size: 2.537 sqm

Final and executive design of civil works and mechanical systems

The project for the new regional branch of the Experimental Zooprophylactic Institute of the Veneto (IZSVe) in Buttapietra (VR) is a highly complex technical and functional undertaking, aimed at creating an advanced diagnostic center for microbiological analysis, necropsies and applied research in the field of veterinary health.

The building, with a total surface area of approximately 2,500 m², was designed by PRISMA Engineering to ensure operational efficiency, health safety and management flexibility. The L-shaped architectural composition echoes the rural Venetian style, blending harmoniously into the surrounding agricultural landscape.
The main body houses the BSL2 and BSL3 laboratories, basic diagnostics and offices, while the transverse block houses the operating room and animal facility.
The internal layout, spread over two levels and an upper technical floor, allows for a clear separation of flows (personnel, materials, animals and waste), which is essential for biosafety.

Project objectives:

- Functional efficiency: rational and easily manageable layout;
- Operational and health safety: filters, controlled access, separate systems;
- Flexibility of use and maintenance: elevated systems, well-distributed technical spaces, clear separation between functions;
- Highly efficient systems designed for energy savings.











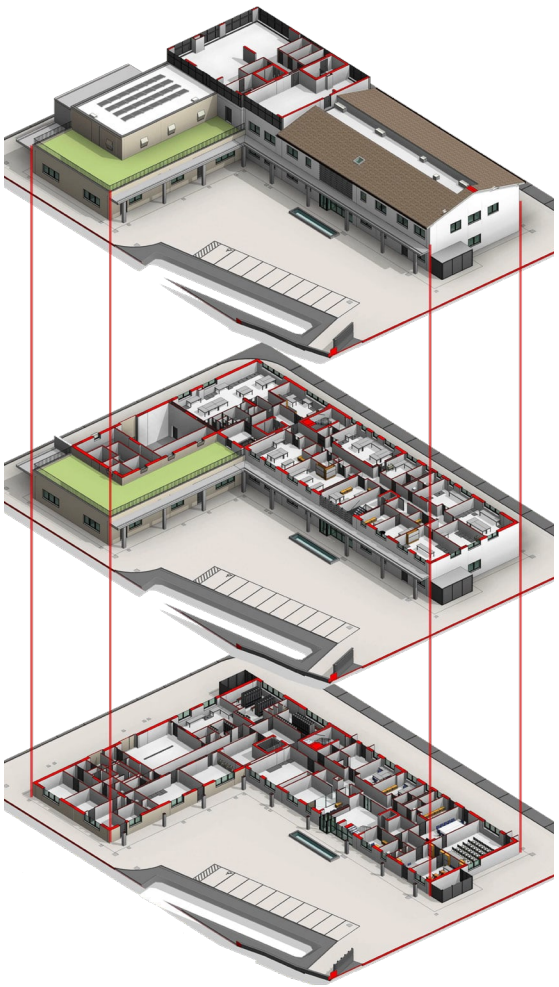




From a technological point of view, the plant system has been designed according to criteria of high efficiency, reliability and sustainability.

The heart of the complex consists of a multi-purpose geothermal heat pump powered by groundwater, capable of simultaneously producing hot and chilled water with total heat recovery.
Ventilation and air conditioning are provided by air handling units with high-efficiency heat recovery units, double heat exchangers and absolute filters for BSL3 laboratories, while general laboratories and offices are served by radiant panels, fan coils and treated primary air.
All systems are managed by a BMS system for thermo-hygrometric control, remote diagnostics and energy optimization.

The technological system is completed by a dedicated MV/LV electrical substation, a 150 kVA generator and UPS to ensure the operational continuity of sensitive laboratories.
There is also a rooftop photovoltaic system, fire and gas detection systems, access control, video surveillance and a data network.







New Veritas CDO3 headquarters with offices and laboratories for integrated water services

Location: Mestre (VE), Italy
Design period: 2018 - 2020
Construction supervision period: 2022 – 2023
Size: 4.800 sqm

Preliminary and final architectural design, detailed and executive design of mechanical, electrical and special systems. Fire prevention planning, Health and Safety Coordination during the design phase. Integration of specialist services. Site supervision and support to the Construction Management for systems-related works

The project stems from the need to construct a new building for laboratories, offices and company headquarters known as "CDO3," an additional facility adjacent to the existing one (the "CDO2" Business Center). The VERITAS laboratory has been accredited under UNI EN ISO 17025:2005 since 1998 and features a chemistry section equipped with highly automated instruments, as well as a microbiology section with advanced technical and diagnostic capabilities.
Project Objectives:

- Organization and horizontal development of homogeneous functions, with a floor-by-floor layout and modular configuration of spaces intended for laboratories and offices;
- Guarantee of energy efficiency and flexibility;
- Interior layout aligned with operational procedures to facilitate workflow, communication and collaboration among staff;
- Separation of spaces and connections designated for laboratory personnel and office staff, avoiding interference between paths.









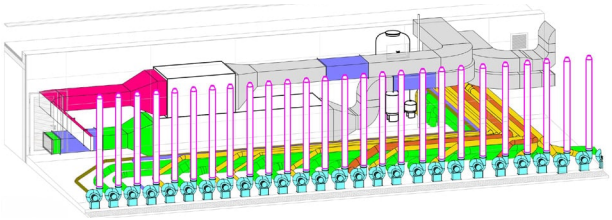
The building, developed over four levels with a rectangular floor plan and a north-south orientation, features a functional and modular space layout that clearly separates the flows between laboratories and offices.
Given the size of the structure, the adopted solution includes a central core dedicated to service blocks, technical rooms and vertical connections.

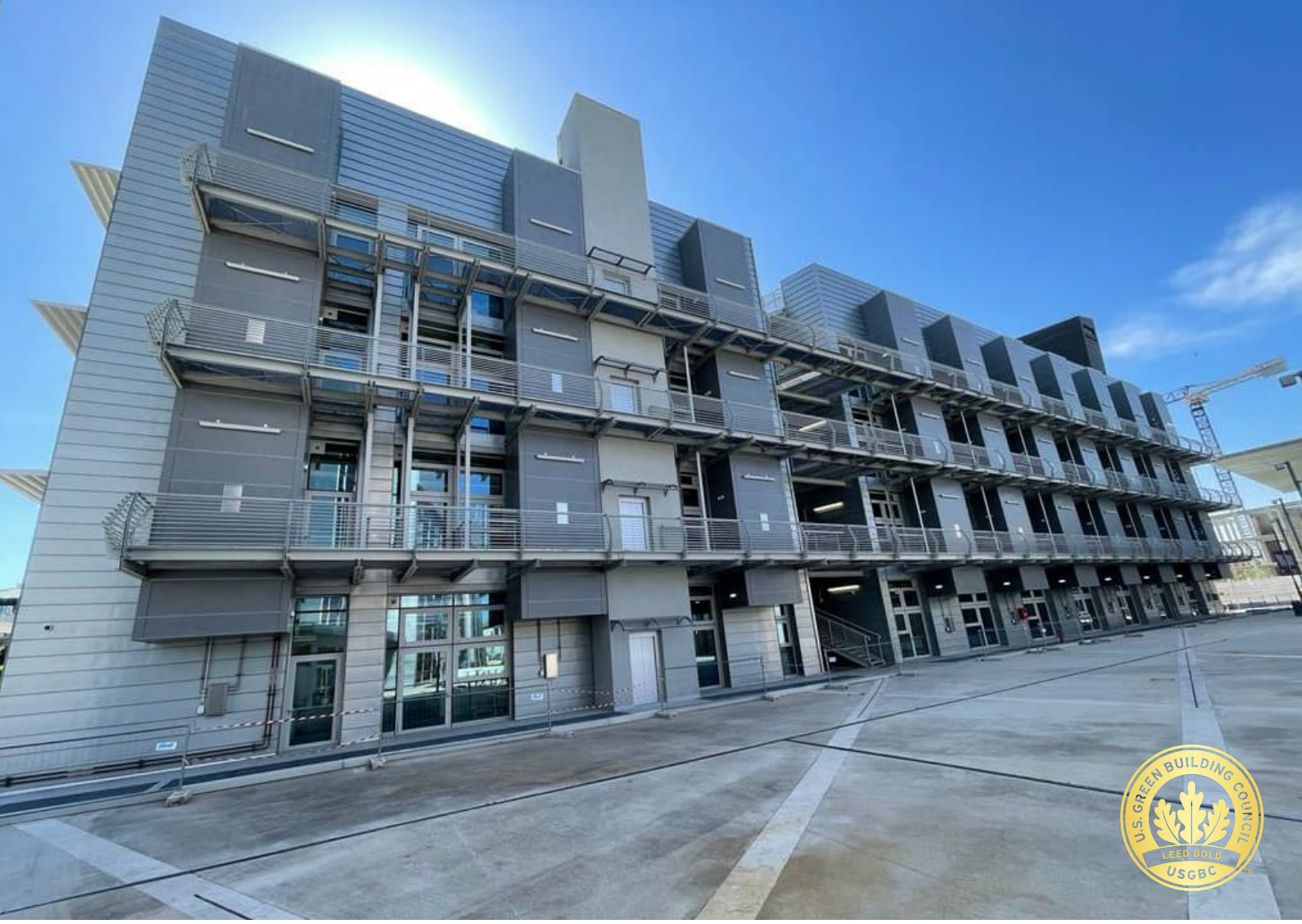
The lower floors house the chemical and biological laboratories, while the upper levels accommodate offices and the general management, with flexible spaces organized in modular units and glazed partitions to enhance brightness and transparency.
The architecture, characterized by a sober and contemporary language, integrates glass façades and metal screens, as well as terraces and green roofs that improve the microclimate and visual comfort, harmoniously integrating the building into the urban context.

Given the building's representative and managerial function, particular attention was paid to aesthetic and functional aspects by reorganizing and enhancing the use of green outdoor areas, increasing their usability and creating an ecological zone. This promotes integration with the surroundings through a sustainable, green-oriented approach.

The complex is equipped with high energy-efficiency systems and integrated control. The mechanical systems use polyvalent heat pumps, heat recovery systems and high-efficiency AHUs with VAV regulation, all managed by a BMS that optimizes energy consumption and environmental comfort.

The electrical and special systems include a 67 kWp photovoltaic system, smart LED lighting with KNX control, shading system management and electric vehicle charging readiness. All systems contribute to ensuring sustainability, reliability and operational continuity, making the building a model of efficiency and innovation for advanced technical-scientific facilities.





EPSILON building, Scientific Campus CA' Foscari

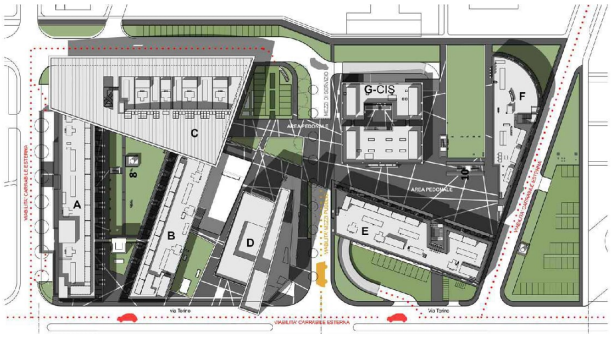
Location: Mestre (VE), Italy
Period: 2016 - 2018
Size: 7.138,40 sqm

Detailed and executive design of mechanical, electrical and special systems. Fire prevention design, site supervision for systems installation

The project involves the design of the new "EPSILON" building within the Science Campus, intended to host the activities of the Departments of Environmental Sciences, Computer Science and Statistics (DAIS) and Molecular Sciences and Nanosystems (DSMN).

The Epsilon building is a prime example of integration between architecture, systems engineering and environmental sustainability. The meticulous architectural design is combined with high-tech mechanical and electrical system solutions that ensure comfort, efficiency and safety, with particular focus on reducing energy consumption, improving indoor air quality and using environmentally compatible materials. The multidisciplinary approach, supported by MEP modeling integrated within a BIM environment, made it possible to optimize timing, quality and coordination, giving the project a distinctive level of technical and environmental excellence.

The modularity of the building structures followed the serial layout of the individual laboratory spaces, which defined the base scheme for the internal layout and the structural system of the entire facility. The project stands out for its focus on both environmental and economic sustainability, achieving LEED Gold certification.



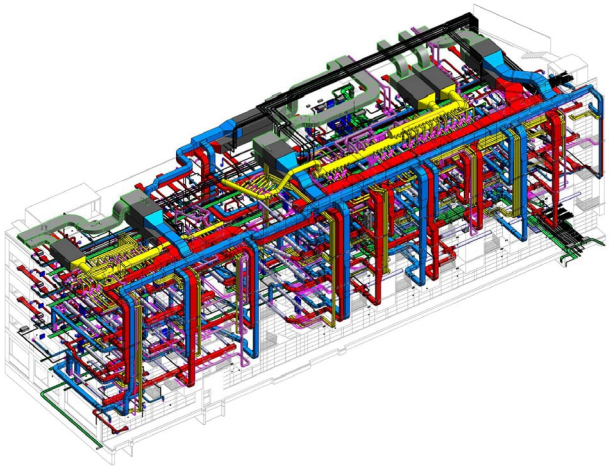






The main objectives of the project are:

- Usability
- Functionality: effective use of space for all services required by the University
- Management of interference with the surrounding environment throughout all phases
- Focus on economic and environmental sustainability: thanks to the adoption of modern building technologies, the facility has achieved LEED Gold certification







Veterinary Medicine Complex

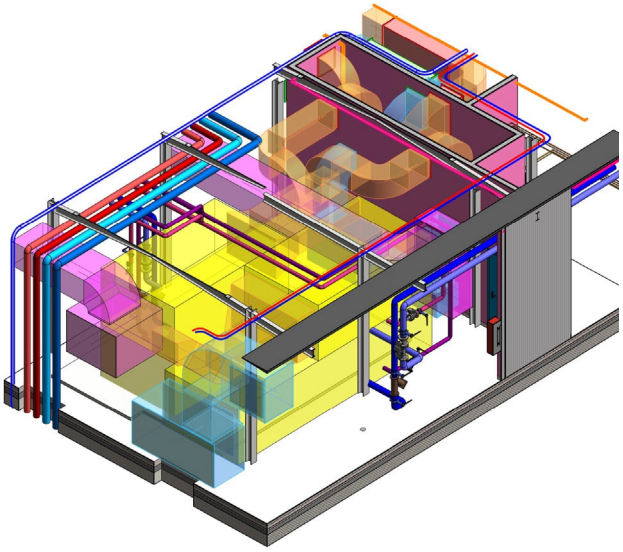
Location: Legnaro (PD), Italy
Design period: 2016 - 2019
Construction supervision period: 2020 - 2023
Building energy class: A
Total surface: 3.077 sqm

Detailed and executive design of civil works, mechanical, electrical and special systems. Fire prevention planning. Site supervision of systems installation, Health and Safety Coordination during the Construction phase, variant assessment and final fire prevention certification (SCIA)

The project involved the construction of the new Veterinary Medicine Complex at the Agripolis University Campus in Legnaro (PD), a highly technological development aimed at meeting the functional and scientific needs of the University of Padua.

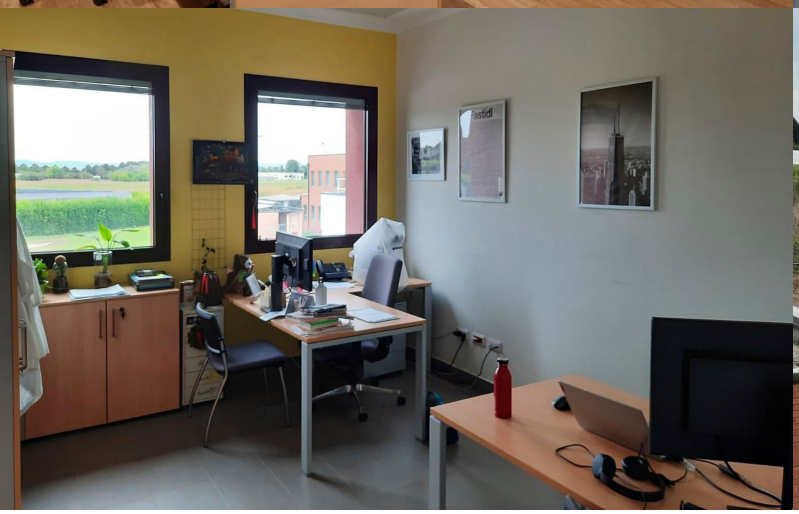
The building, developed over three above-ground floors with a total area of approximately 3,000 square meters, fits harmoniously into the university setting, integrating with the existing structures and providing a coherent and modern architectural identity.
The entire building was designed according to energy efficiency criteria, achieving Energy Class A, thanks to construction and system solutions focused on sustainability and consumption reduction.
The building is conceived as a compact and functional volume, organized according to a ring-shaped distribution scheme around a central vertical core. This configuration optimizes circulation flows and ensures spatial clarity and visual continuity between the different areas.
The ground floor houses common and educational functions – including two large classrooms and specialized laboratories – while the upper floors accommodate offices and research laboratories.

The formal and material choices, consistent with the Campus environment, promote landscape integration and reduce long-term maintenance requirements.







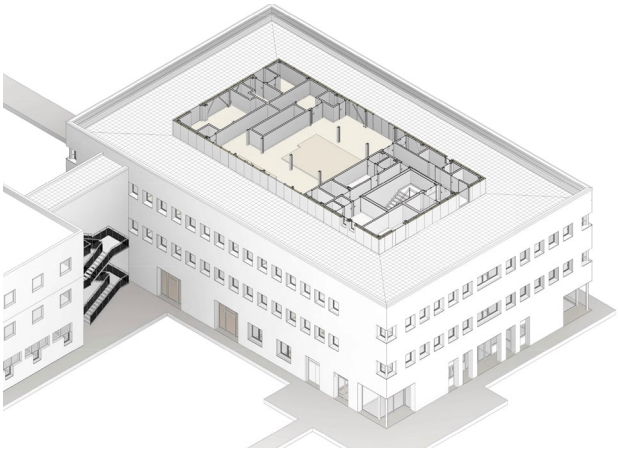


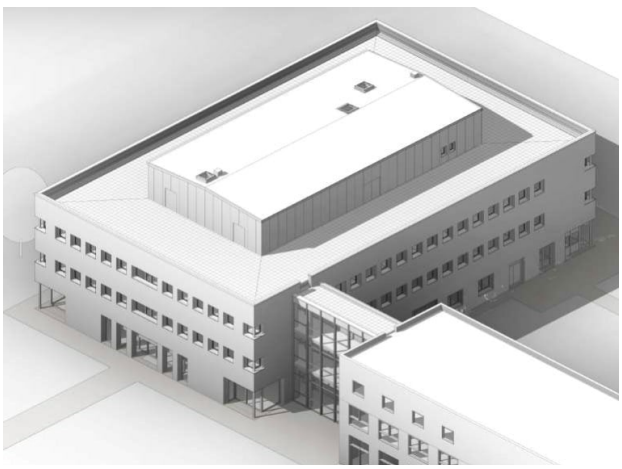


From a systems engineering perspective, the project adopted innovative and technologically advanced solutions.

The mechanical systems were designed to ensure high efficiency and environmental comfort. The air conditioning systems include full fresh air units with heat recovery and radiant ceilings, providing both comfort and energy savings. The controlled mechanical ventilation systems allow for automatic air flow regulation through motorized VAV and CAV dampers, ensuring air quality even in high-tech laboratories. Dedicated networks are also in place for the distribution of technical gases and the management of special waste, including radioactive waste, with integrated safety systems. The photovoltaic system contributes to the building's energy self-sufficiency and emissions reduction.

The building is equipped with high-efficiency LED lighting systems compliant with UNI 12464-1 standards and an integrated safety system including smoke and gas detection, EVAC sound diffusion and provisions for access control and intrusion detection. Electrical management is supported by an emergency generator and double radial switchboards, ensuring continuity and service reliability.







New Science and Technology Park for the Sant'Anna School of Advanced Studies

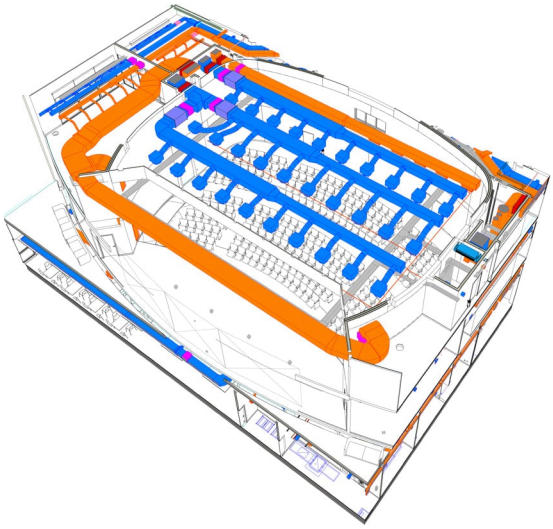
Location: San Giuliano Terme (PI) - Italy
Period: 2023 - 2025
Size: 43.000 sqm

Technical and economic feasibility study, detailed design and construction design of mechanical, electrical and special systems

The Sant'Anna Science and Technology Park extends over an area of approximately 43,000 sqm with seven buildings intended for laboratories, research activities, offices, an auditorium, a clean room and university services, all integrated with green areas, sports spaces and a cycling path.
The masterplan, structured in two phases, includes retention basins with both hydraulic and recreational functions, a central square, and a ring-shaped road system with parking areas and landscaped zones.

Sustainability is at the core of the project: CO_2 reduction through low-impact materials, use of photovoltaic panels, low-VOC materials, and both extensive and intensive green spaces. The entire complex aims to strike a balance between scientific functionality, user well-being and environmental compatibility.





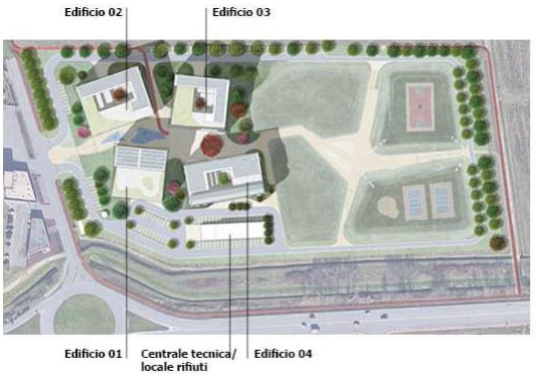








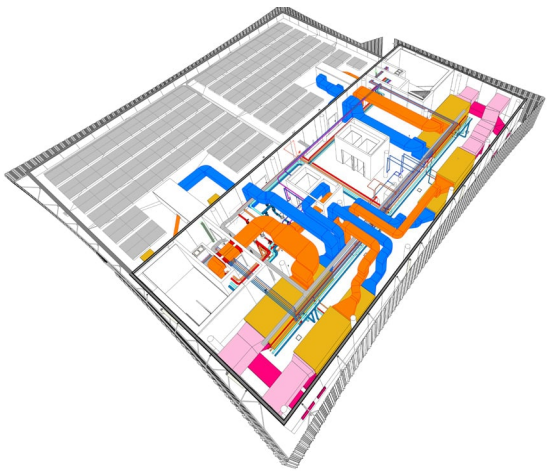




The architectural design prioritizes sustainability, prefabrication and spatial flexibility, featuring glazed façades screened by metal cladding, recyclable materials and solutions that ensure acoustic, lighting and thermal comfort. A research greenhouse is also included.
The buildings employ prefabricated steel and concrete structures, green roofs and anti-seismic design strategies.

The thermomechanical systems are designed to ensure high environmental comfort and energy efficiency, featuring high-performance air-conditioning and ventilation systems connected to a shared technological plant. This central plant houses new-generation heat pumps, designed for future expansions and aimed at reducing the use of fossil fuels. In the laboratories, specialized ventilation systems and fume hoods are provided to guarantee safety, while the building envelope incorporates ventilated façades and advanced insulating materials to minimize thermal losses. All systems are managed by an automated supervision system enabling real-time control and optimization of energy consumption.

The electrical and special systems follow principles of innovation, energy savings and service continuity, with high-efficiency equipment, photovoltaic installations and centralized remote-control systems. The electrical distribution is designed to adapt to the needs of research laboratories, featuring divided electrical panels and a KNX Bus system for intelligent lighting control. The structured cabling infrastructure supports integrated monitoring of safety and communication systems, ensuring high maintainability and readiness for future expansions.





New Congress Centre for the Fairgrounds

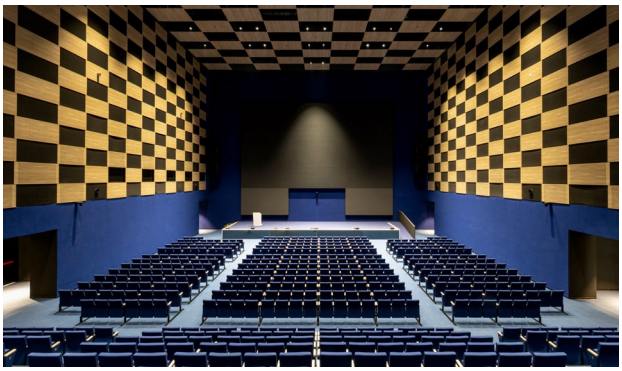
Location: Padova - Italy
Design period: 2012 - 2016
Total surface: 13.761,86 sqm

Definitive and executive design of mechanical, plumbing, electrical and special systems, Fire Prevention Application and Fire Prevention Design

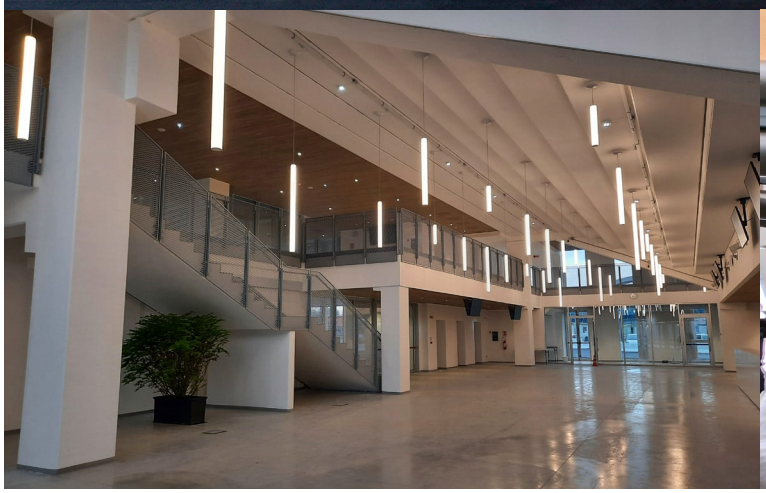
The new Congress Centre, located in the northern area of the Padua Fairgrounds, is conceived as a flexible, sustainable complex strongly integrated into the urban context.
The building, accommodating up to 3.200 spectators, includes conference halls of various sizes that can be configured according to needs, dining areas, exhibition spaces and support services, all organized around a large central gallery that serves as a distribution axis and a covered plaza for the city.

The architectural design enhances the historical elements of the fair district, preserving the Strazzabosco portal and the original façade of the Palazzo delle Nazioni, both reinterpreted in a contemporary manner. From a systems perspective, the intervention aims for maximum energy efficiency and environmental sustainability, featuring automated air-conditioning and lighting systems, energy recovery devices, and a photovoltaic installation for the production of renewable energy.







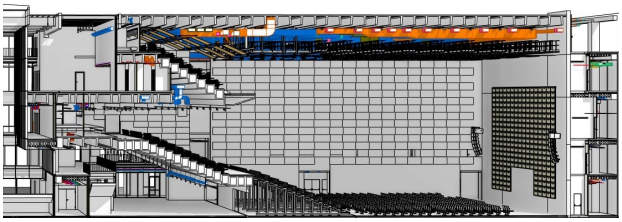




The load-bearing structure consists of precast reinforced concrete beams and columns, integrated with cast-in-place reinforced concrete cores and shear walls, along with hollow-core slabs.
Deep FDP pile foundations ensure the stability of the building, while the roof combines precast elements and glulam timber, selected for its aesthetic qualities, seismic performance and durability.

The prefabricated façades with thermal break and the portico with vertical louvers provide lightness and visual permeability, making the Congress Centre a representative, efficient and contemporary building.







New Provincial Headquarters in L'Aquila

Location: L'Aquila (AQ) - Italy
Design period: 2013 - 2025
Size: 3.105 sqm

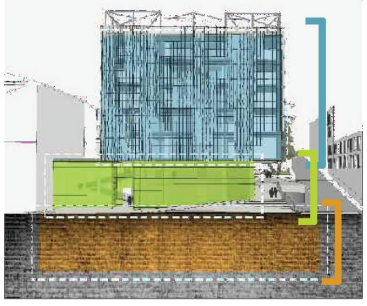
Seismic assessment. Definitive and executive design of civil works, mechanical systems, electrical and special systems. Fire prevention design. Safety Coordination during the Design Phase

The project for the construction of the new Provincial Headquarters of L'Aquila represents a complete reconstruction following the 2009 earthquake, with the goal of creating a modern, safe and sustainable institutional building.
The intervention combines architectural rigor with technological innovation. The new complex is organized into three functional areas (public, work-related and parking) integrated into a single building.
The ground floor, fully glazed, houses public spaces and conference rooms in direct dialogue with the city. The upper levels accommodate the offices of the Province, while the top floor, dedicated to the presidency, features a transparent volume that symbolizes openness and institutional representation.









WORKING AREA

PUBLIC AREA

PARKING AREA

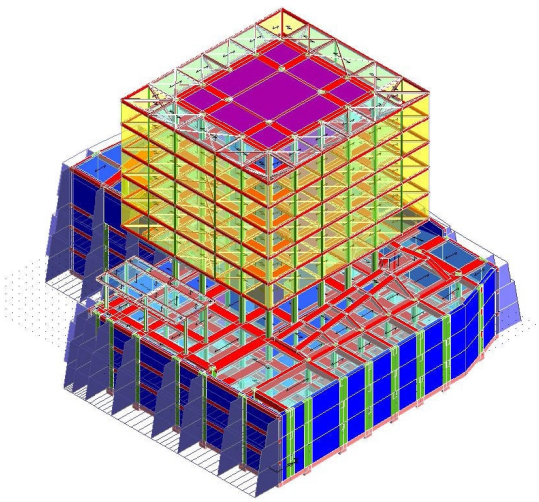






From a construction standpoint, the building employs a mixed structure of reinforced concrete and steel, combined with XLam timber floors that ensure lightness, seismic resistance and high thermo-acoustic performance.
The elimination of cantilevered slabs made it possible to create a large central foyer and to optimize the internal layout. The design also includes the use of eco-friendly and durable materials (such as wood, glass, aluminum, and reconstructed stone) selected to minimize maintenance requirements. Particular attention was devoted to reusing debris from the old building, which was recycled to produce the new cladding materials and the base works.

From the systems perspective, the building is conceived as an integrated and intelligent organism capable of achieving energy class A+, thanks to a coordinated system that combines a geothermal plant with slab mass activation, a photovoltaic system, high-efficiency thermodynamic heat-recovery units, and a VRV system with phase-change thermal storage.
The electrical system, also designed for flexibility and automation, includes high-efficiency LED lighting with a DALI control system, automated management of socket power supply, intelligent control of utilities and provisions for future expansions or reconfigurations. On the roof, fully integrated into the architectural design, a photovoltaic array is installed in complete alignment with the morphology of the roof, contributing significantly to the building's energy autonomy. All systems are managed by a centralized BMS, enabling continuous monitoring and automatic regulation of energy and environmental parameters.





Restoration and functional recovery of the former Hydraulic Workshop of the Magistrato delle Acque

Location: Stra (VE) - Italy
Period: 2023 - ongoing

Definitive and executive design of mechanical, electrical and specialist systems. Health and Safety Coordination during the Design and Construction phases, Construction Supervision. Acoustics.

The project concerns the rehabilitation and functional repurposing of the historic building that once housed the Experimental Hydrotechnical Institute of Stra for cultural enhancement purposes. The intervention pursues a dual objective: to preserve an architectural asset of historical and scientific value and to convert it into a cultural hub for the local community, with spaces dedicated to the Civic Library, conferences, events, exhibitions and a small museum area illustrating the history of the building.

After decades of abandonment and inappropriate uses, the building, protected under monument and landscape restrictions pursuant to Legislative Decree 42/2004, will undergo a conservative restoration aimed at recovering original materials and redeveloping the surrounding area. Works include paving with Euganean trachyte, reconstruction of the brick base of the ancient boundary wall, and landscaped areas, re-establishing the connection with the monumental context of Villa Pisani.







From a functional standpoint, the ground floor features the monumental entrance on the south side, a foyer, and a multipurpose hall for exhibitions and events, as well as a 150-seat conference room in the west wing and the library spaces with offices and reading rooms in the east wing. The basement level will house technical and service rooms, the first floor will contain additional reading rooms and restrooms. From this level, access will be possible to the hydrometric tower and the panoramic walkway above the roofs.

The intervention includes structural consolidation and seismic upgrading, restoration of masonry, roofs, and windows and the complete installation of modern systems (electrical, HVAC, heating/cooling, and fire protection) ensuring efficiency, safety and comfort while fully respecting the historical and architectural value of the building.







Restoration and repurposing of the guard towerand early-20th-century buildings for public services

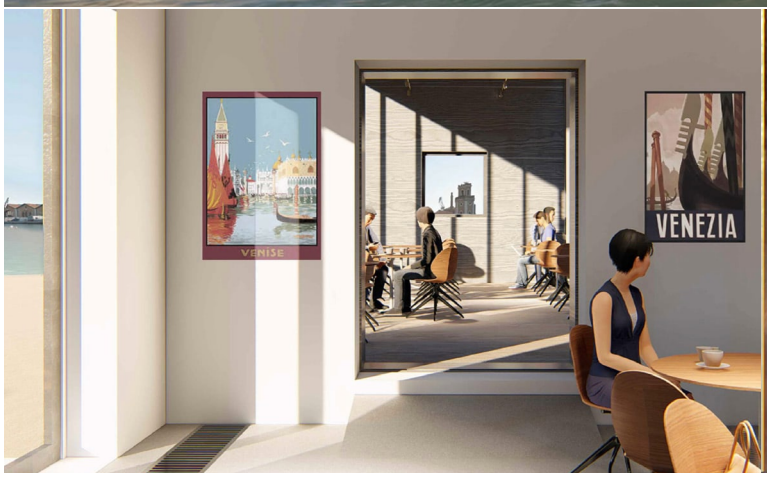
Location: Arsenale di Venezia (VE) - Italy
Period: 2023 - 2024

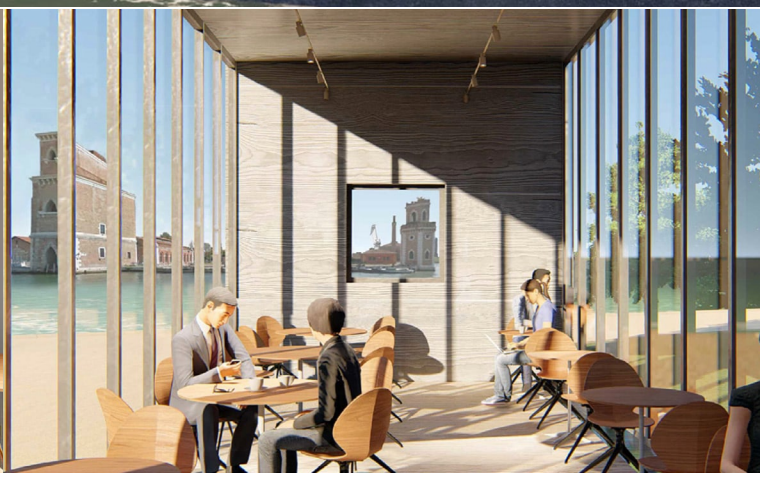
Technical-economic feasibility study, definitive and executive design of building systems.
Fire prevention. Site engineering support

The project involves the restoration and functional repurposing of a group of historic buildings in the **Giardino delle Vergini** area within the Arsenale of Venice, as well as the construction of a new building to be used as a restaurant serving the Biennale's exhibition activities. A key aspect of the project was combining the protection and enhancement of the historic context with architectural, structural and MEP solutions designed for high energy efficiency, ensuring comfort, safety and sustainability. The architectural, structural and system interventions were conceived to blend harmoniously with the existing heritage, reduce energy consumption, improve accessibility and ensure long-term usability in compliance with CAM environmental criteria.



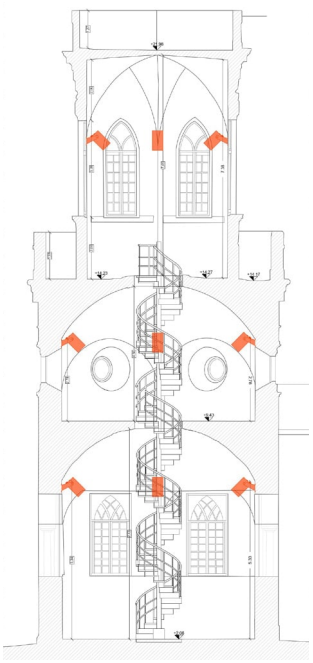




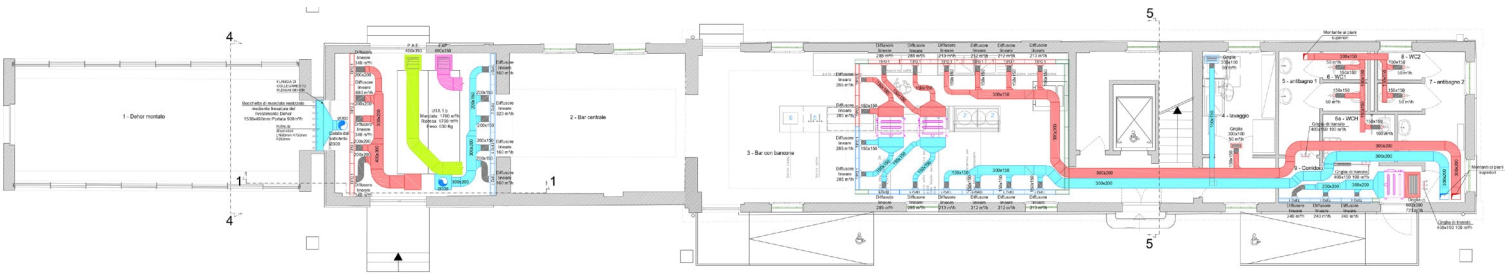


The mechanical and electrical systems were designed to ensure comfort, energy efficiency and respect for the building's historical value.
The HVAC system and controlled mechanical ventilation guarantee optimal thermo-hygrometric conditions throughout the year, using high-efficiency equipment and heat-recovery units to reduce energy demand and protect the historical structures. Automated controls adapt system performance to the actual use of each space, while ductwork is discretely integrated to avoid visual or structural impact. The electrical systems incorporate modern low-voltage switchboards prepared for future expansions. LED lighting with DALI management enables flexible lighting scenarios and high visual quality, integrating seamlessly with the historic interiors.

Completing the overall system are the specialist installations, managed by a centralized supervision system that ensures safety, reliability and efficient control, fully respecting the architectural value of the buildings.









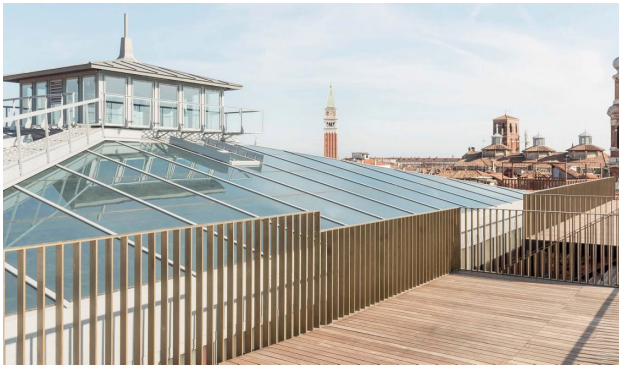
Conversion plan for the Fondaco dei Tedeschi into a commercial space

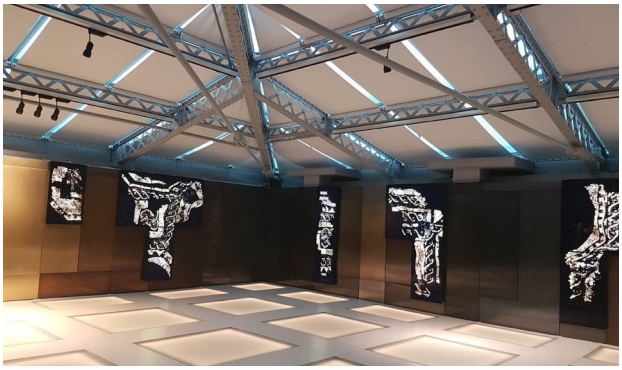
Location: Venezia - Italy
Period: 2014
Surface: 9.160 sqm

Executive design of mechanical, electrical and specialist systems

The project involved the conservation of the historic Venetian palace of the Fondaco dei Tedeschi, overlooking the Grand Canal, for its transformation into a large retail facility featuring public spaces and commercial areas.

The conversion plan into a commercial destination was designed by architect Rem Koolhaas.
The project makes the entire building accessible, which consists of four above-ground floors plus a fifth level created beneath the metal roof covering the central courtyard, from which the panoramic terrace is accessed. To optimize entrance and exit flows, the "porosity" of the building was increased by introducing two new access points that improve internal circulation. The structural works of the Fondaco were designed in full respect of the original construction logic of the 1930s and with careful compatibility toward the sixteenth-century historic building. The structural system adopts reinforced concrete solutions, integrated with flood protection works and with the infrastructure required for building services.



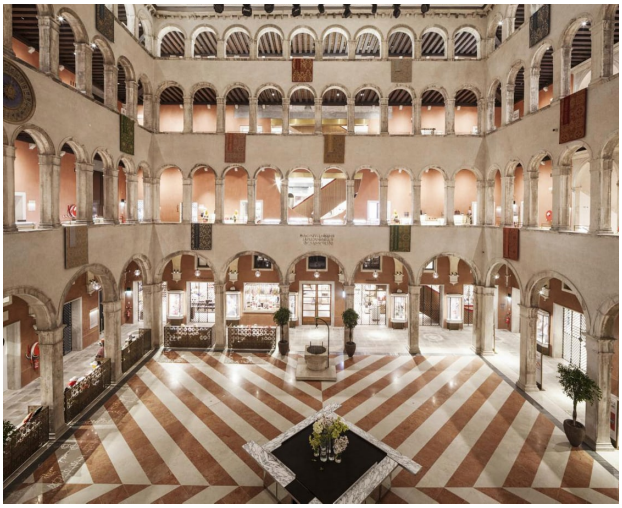


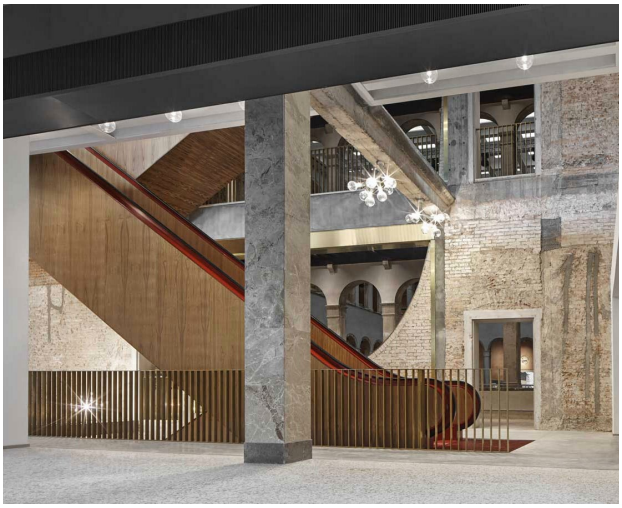


The system design choices and all technical decisions, were guided by the goal of maximizing energy savings and minimizing the building's environmental impact in terms of pollutant emissions, while carefully considering the context in which the project is located, both from a climatic and environmental standpoint as well as from an architectural and functional perspective.

The artificial interior lighting of the building is based on maximum energy efficiency and rational use: low-consumption and/or LED luminaires have been installed, managed by an automatic control system that optimizes the contribution of natural daylight entering through the existing windows.

The intervention ensures a significant improvement in overall thermal insulation and optimal environmental comfort with minimal acoustic impact. The HVAC system relies on high-efficiency, low-environmental-impact technologies, such as vertical geothermal probes.





Fondazione Prada

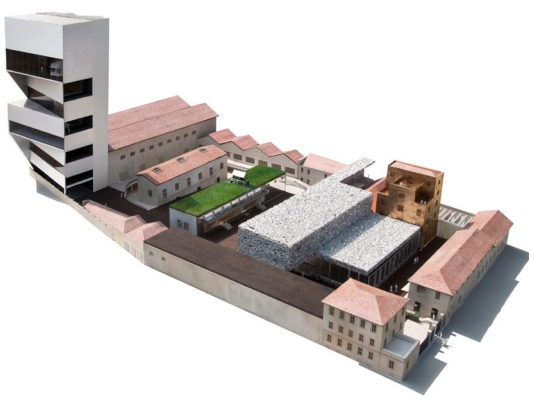
Location: Milano - Italy
Period: 2013 - 2013
Size: 17.000 sqm

MEP Design

Fondazione Prada, established in 1993 by Miuccia Prada and Patrizio Bertelli, is a non-profit cultural institution dedicated to promoting contemporary art. Since its inception, the Foundation's mission has not only been to collect and exhibit artworks, but also to create a place capable of stimulating reflection and cultural exchange, opening itself to diverse artistic languages and audiences.

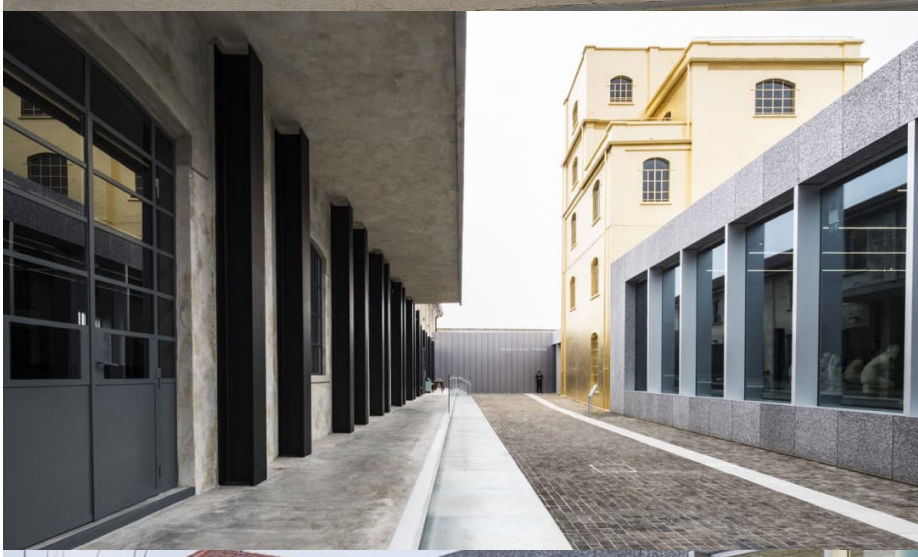
With the Largo Isarco project in Milan, developed within a former early-20th-century industrial site, the Foundation has found its definitive form: a permanent cultural and exhibition center that preserves memory while embracing innovation.

The underlying idea is to transcend the traditional concept of museums and galleries—too often characterized by neutral and standardized environments—by instead offering a variety of spaces, each with its own identity, designed to stimulate creativity and enrich the perception of the artworks.





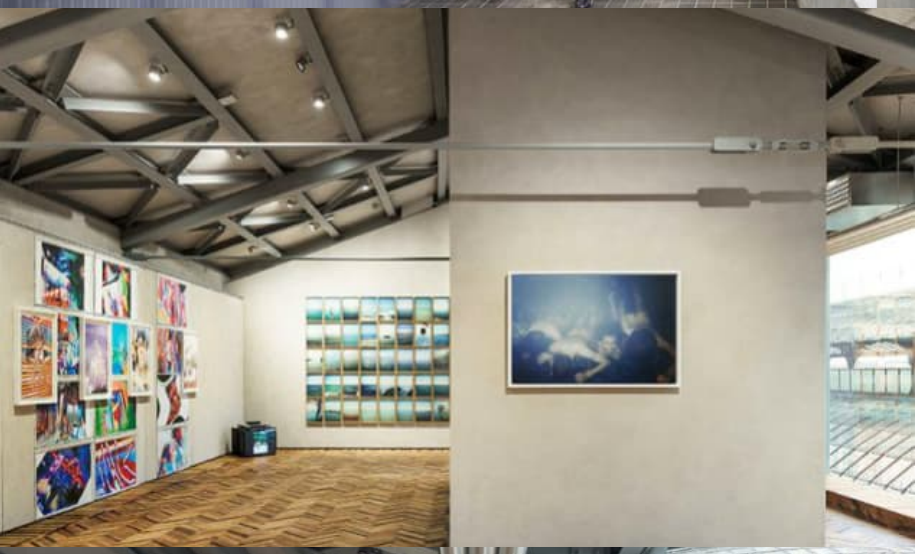














The complex is organized around a large central courtyard, a visual and perceptual focal point around which the various buildings are arranged. The access axis guides the visitor's gaze and orientation: on one side are the library and the café (places for pause and social interaction) while on the opposite side stand the Podium and the Haunted House, two emblematic buildings that immediately introduce visitors to the exhibition dimension.
The spaces alternate with great variety. An iconic element of the project is the Tower, a 60-meter-tall sculptural building that houses the Foundation's permanent collection and, with its verticality, becomes a visual landmark for the entire complex. The South Gallery, on the other hand, surprises with its triangular floor plan: a sequence of rooms that progressively increase in size, each different from the next, creating an ever-changing exhibition path rich in spatial and emotional cues.

The primary goal of the developed project was to identify the best MEP solutions to optimize investment and operating costs, safety and reliability, as well as system functionality and flexibility.
Particular attention was devoted to optimizing the solutions to ensure the integration of electrical systems with both the architectural choices and the requirements of the mechanical installations.

