CASE STUDIES

2026

Fondazione
i Teatri
Reggio Emilia

COSTER

BUILDING

Three historic theatres in the heart of Reggio Emilia — **Teatro Valli, Teatro Ariosto, and Teatro Cavallerizza** — form a complex known as iTeatri di Reggio Emilia. Since the late nineteenth century, they have been cultural symbols of the city, characterized by monumental auditoriums, loges, stages, and ancillary spaces with vastly different environmental requirements.

Each day these spaces host rehearsals, performances, and hundreds of spectators. Air quality, heat comfort, and the silent operation of the systems become an integral part of the theatrical experience.

In this context **Coster** carried out the improvement and digitalization of the air handling systems, designing the new control system with **CosterCAD** and integrating it for supervision of the **WebGarage platform based on FIN Framework by J2 Innovations**, installed on servers inside the theatres and managed by the technical staff of the theatre complex.

INTERVENTION

The project involved three different facilities:
an **advanced revamping** for Teatro Ariosto, **replacement of the existing control system** at Teatro Valli, and a **complete structural intervention** for the systems at Cavallerizza.

The **WebGarage** platform enables centralized supervision of the three theatres, keeping the systems independent but coordinated by a single digital control center.

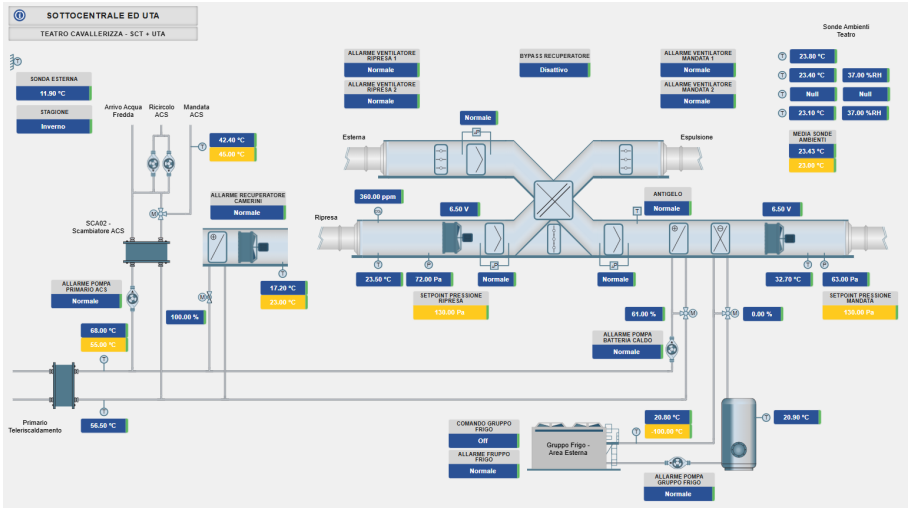
All the regulating logics are directly imported on the controllers, with a smart allocation architecture, able to guarantee a uninterrapted job even in the event of a lack of communication with the supervisor.

The program was developed to adapt to the performance schedule and variations in occupancy, with dynamic management of:

1	ROOM TEMPERATURE	3	SUPPLY AND RETURN AIR PRESSURES
2	CO_2 LEVELS	4	OPERATING MODES (NORMAL, SILENT)

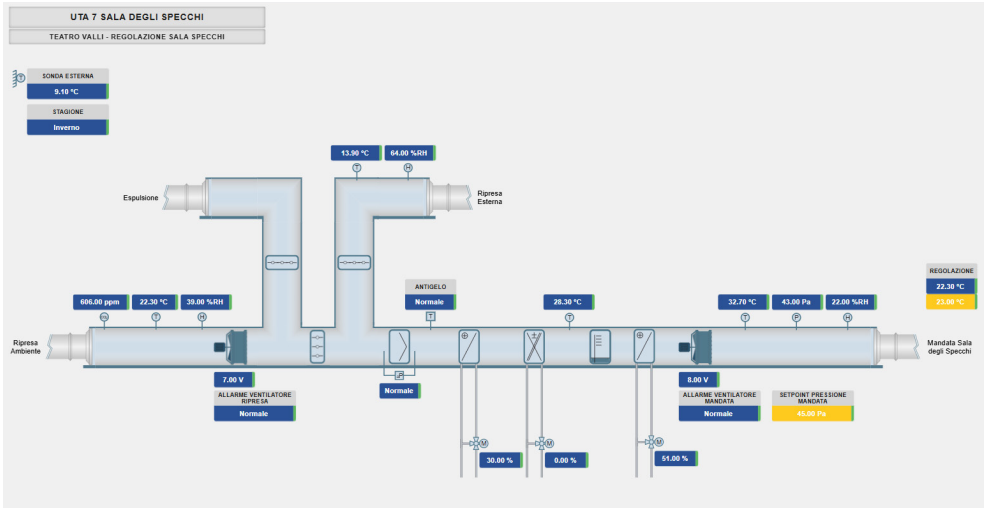
TECHNICAL FEATURES

- Air handling units dedicated to the auditorium, stage, loges, and ancillary rooms
- Heat substations integrated with the heating network
- Primary heat exchangers for district heating (TLR) and DHW circuit management
- Heat recovery units with the by-pass
- Modulating fans with different pressure control
  (e.g., 4 Pa in normal operation, 2 Pa in silent mode)
- Continuous monitoring of temperature, humidity, CO₂, and alarm status



TEATRO CAVALLERIZZA

TEATRO VALLI



The project with **CosterCAd** lead to show and share, with designers and clients, the regulation logics before its implementation, supporting the middle phase to the final realization of the graphic pages in WebGarage.

ADVANTAGES

The Coster solution stands out for its integration, flexibility, and user-friendliness.

1

Single multi-site supervision with WebGarage installed on an internal server

2

Customized graphics and a complete overview of the systems

3

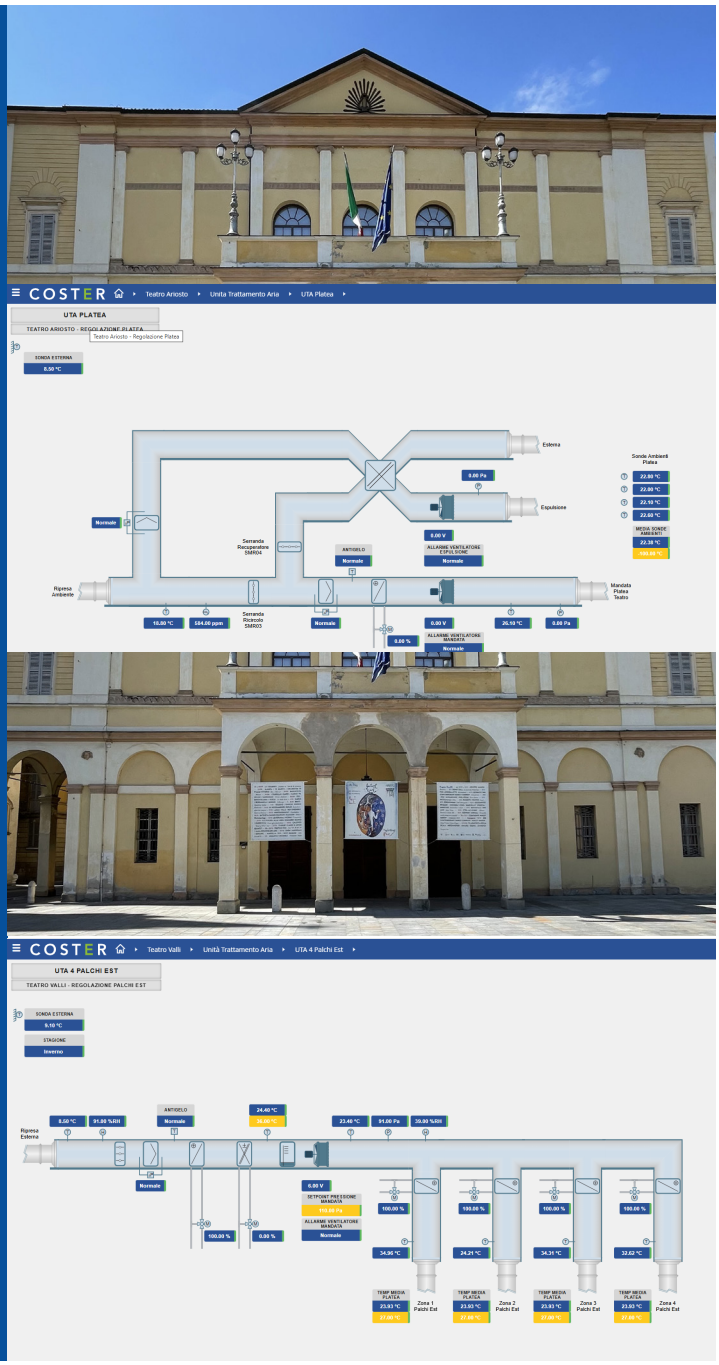
Modulating and coordinated control among the different AHUs

4

Scalable architecture, ready for future energy monitoring

5

Bigger usability and simpler management compared to previous systems



The result is a quiet technical control system, capable of ensuring comfort, efficiency, and the preservation of the architectural heritage, equipping three historic theatres with intelligent HVAC systems ready to evolve over time.