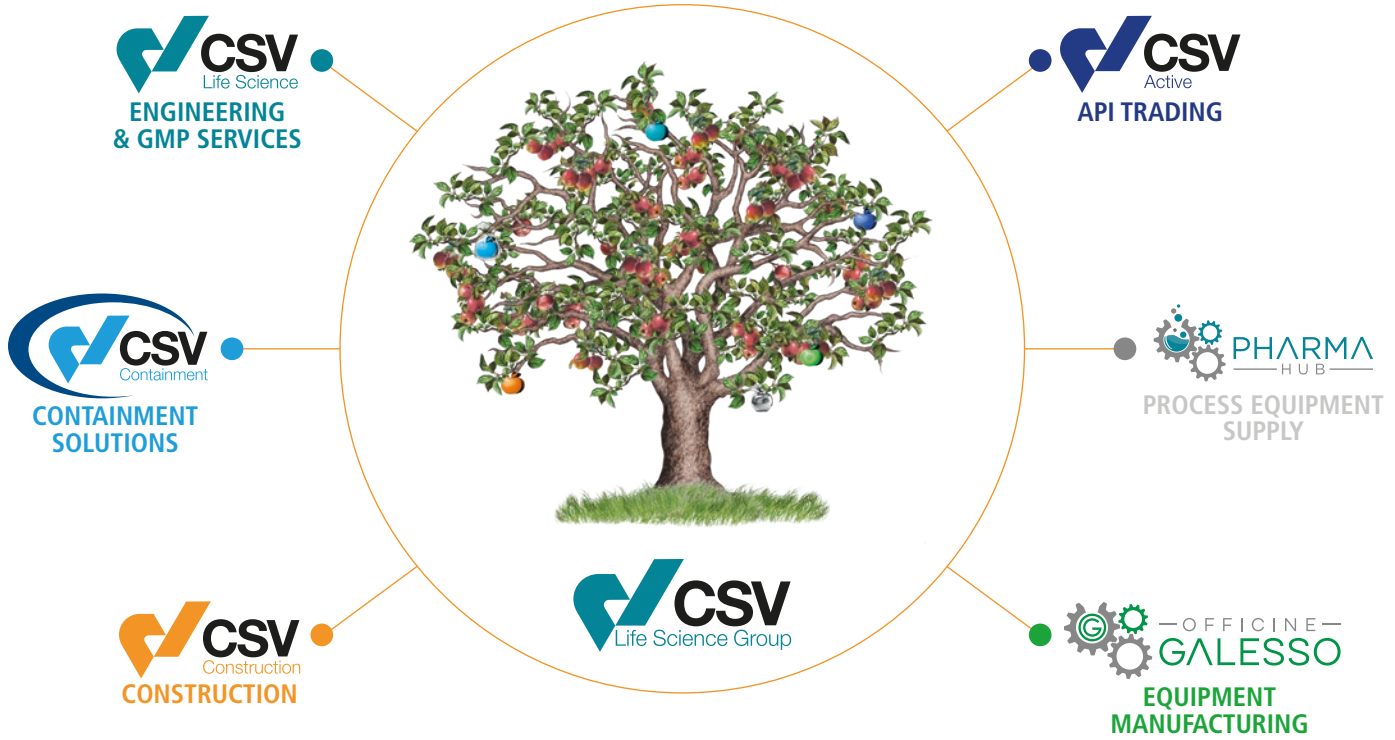




TURNKEY SOLUTIONS

From design to construction and validation in the Life Science world.



Locations



**INTERNATIONAL
CUSTOMER NETWORK**

Milan
CORPORATE OFFICES
AND TECHNICAL DEPARTMENT

Rome
MECHANICAL WORKSHOP

Naples
TECHNICAL OFFICE

Turin
ISOLATORS
ASSEMBLING
AND FAT AREA

Capetown
BRANCH OFFICE

Athens
BRANCH OFFICE



YOUR FUTURE UNDER CONSTRUCTION

CSV Construction offers specialized support to **pharmaceutical companies** through the development and construction life cycle, providing **turnkey solutions** for contamination-controlled environments.

Our staff with **many years of experience** can cope with a variety of plant engineering needs transforming the shared project into **environments tailored to production needs**, whether it is a new construction or a revamping/expansion of an existing department.

We handle the **management and supervision** of the entire construction by appointing both a Project and Construction Manager to ensure that the entire project is coordinate and carried out to the highest standards.



BUILD DIFFERENT

We work to provide **innovative solutions** to our clients, always keeping their specific needs in mind.

We build on a **customer-centric approach** by adding our experience gained over the years to guarantee the customer a result that fully meets his expectations.

This result is guaranteed through an open, pro-active and flexible **collaboration with the customer**, to seek for win-win solutions:

Particular attention is paid to **reducing energy consumption by adopting state-of-the-art technological solutions**. We realise energy-efficient installations and monitor their consumption.



FROM THE GROUND UP

CSV Construction offers comprehensive support to clients by providing turnkey projects (Lump Sum Turnkey, LSTK) of clean rooms and other pharmaceutical and chemical applications. We can develop the phases of:

- Engineering
- Construction & project management
- Construction site
- HVAC
- Mechanical (black and clean utilities)
- Electric/ automation
- Pharma finishing (partition walls, floors, false ceiling, furnitures)
- Start-up commissioning, validation
- Metal structure and machine assembly





ACHIEVE THE TARGETS

In managing site activities, a **strategic approach** is essential, with careful consideration of space and material resources.

Safety is our constant goal. Regular safety checks ensure that practices meet standards.

Construction work is strictly **compared with engineering plans**, as is progress. Administrative diligence is maintained through **monthly supplier progress** reports.

Technical documentation from suppliers contributes to a site **technical book**. This documentation provides a structured **basis for essential IQ/OQ protocols** for the validation phase.



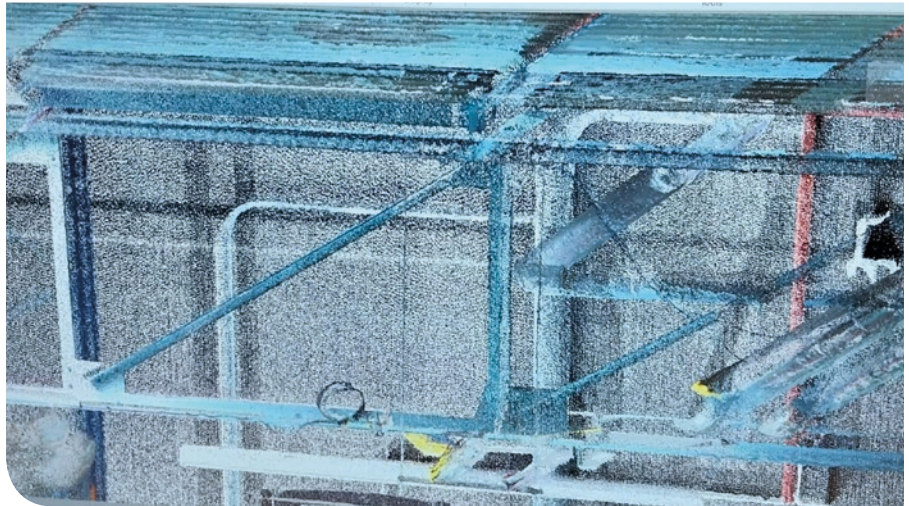


ENGINEERING

We support our clients from the planning and consulting stage, offering construction design for the following activities:

- HVAC,
- Mechanical plants
- Process plants
- Pharma finishing
- Electrical and automation plants.

We also offer **3D Scanner** service. By surveying and measuring real objects, we obtain a 3D model of the current state, which is used for clash detection between existing and new construction, reverse engineering, dimensional inspection, and quality control.

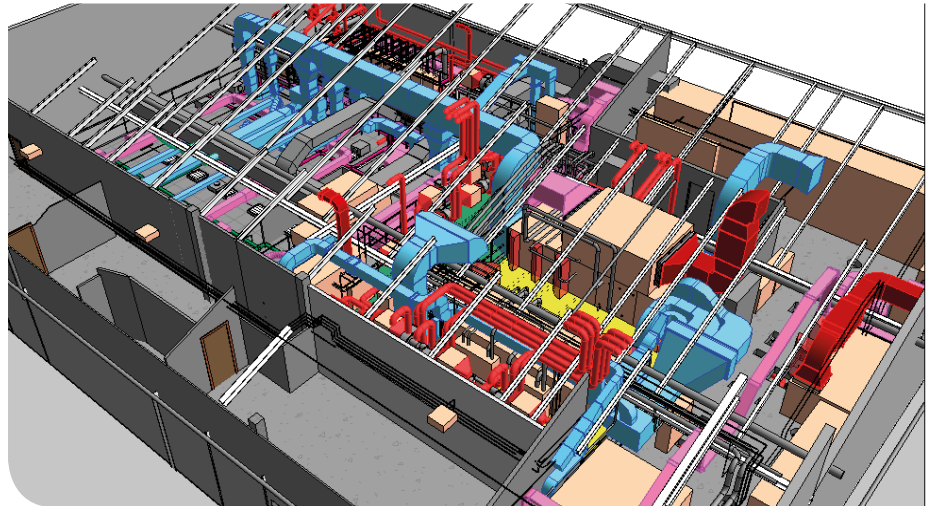
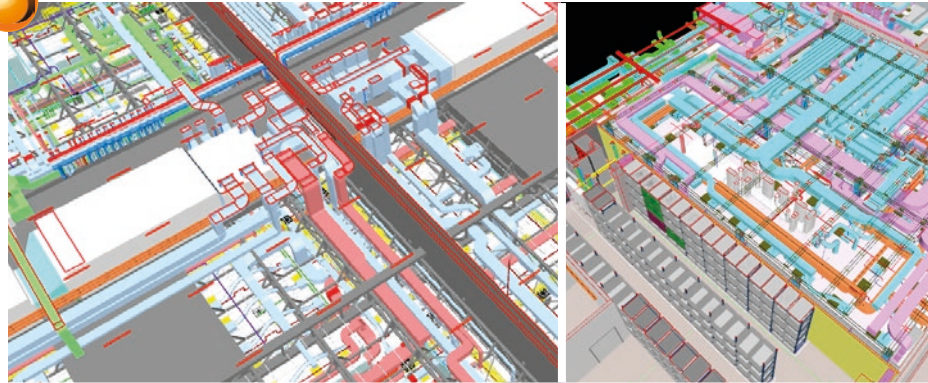


BIM

Thanks to BIM (Building Information Modeling) we are able to optimally manage the design and maintenance of a facility by optimizing all processes.

We choose to use the BIM approach because we **improve the work of all our collaborators**, fostering their communication.

By using highly **advanced realistic simulation** and visualization tools, we are able to predict what will happen in the real world. This allows us to assist our clients in the best possible way by designing systems that reflect all their needs.

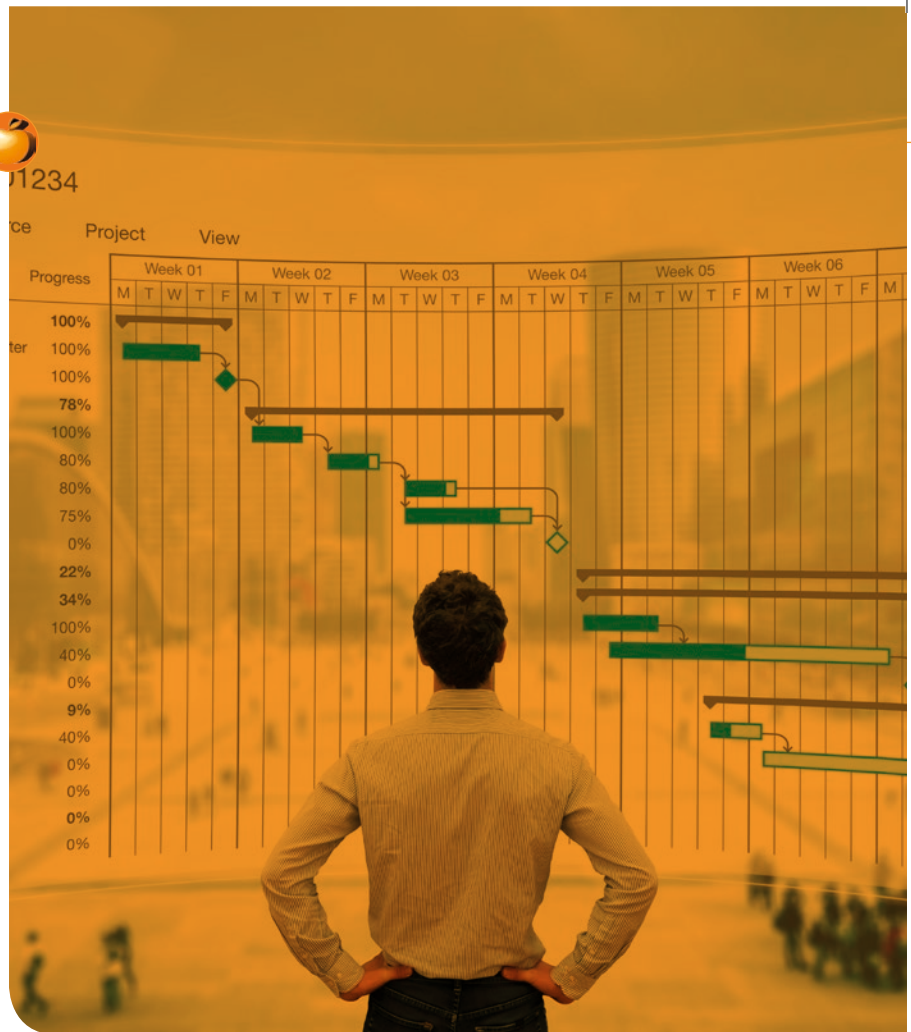




PROJECT & CONSTRUCTION MANAGEMENT

The Project and Construction Manager are responsible for the success of the entire project and specifically must be responsible for:

- Coordination of site activities
- Safety & Quality of execution
- Cost and schedule monitoring
- Administrative tasks/contract management
- **BIM coordination and management:** keeping Revit model updated during construction
- **Selection** of the various suppliers or contractors who will collaborate in the construction of the plant.
- **Follow up** with the various contractors, verifying the congruence of what is proposed in relation to the shared project.
- Integration of commissioning and validation



HVAC

We design and build HVAC systems for all contamination-controlled environments to ensure the proper particle control required by the environment classification.

Constantly complying with the ISPE good practice guide, we supply and install for each kind of facility in the chemical-pharmaceutical sector:

- Air handling units
- Air distribution systems (ducting & insulation)
- Room air diffusion and filtration systems
- Down cross hoods for sampling and dispensing





MECHANICAL

We offer a broad spectrum of applications in the mechanical field covering both the black and the clean utilities from generation up to distribution.

Regarding black utilities field, we realize:

- Thermo-refrigeration power plants
- Piping distribution of fluids to HVAC circuits
- Piping distribution of potable water, softened water, demi water
- Piping for cold water adduction
- Piping for hot water adduction, domestic hot water
- Steam power plants
- Piping for steam and condensate
- Compressed air and vacuum power plants
- Piping for compressed air and vacuum
- Sprinkler systems



Turnkey solutions



As for the clean utilities, we start from client user requirements definition and offer the following systems:

- Generation, storage and distribution of purified water (PW)
- Water generation, storage and distribution for injection (WFI)
- Generation and distribution of clean steam
- Compressed air generation, storage and distribution
- Piping for process gas.



Turnkey solutions

ELECTRICAL/ AUTOMATION

Working with experts in the field, we realize electrical and automation plants in support of controlled-contamination environments, and we specifically supply:

- Low voltage switchboards
- Automation switchboards
- Data transmission equipment
- Electrical, instrumentation and process control equipment
- Lighting plant
- Fire detection plant
- BMS + EMS
- Access management plant



Turnkey solutions

All facilities can be managed in an integrated manner with BMS custom-designed systems following our clients' needs.

With special attention to strict regulations dictated by the chemical-pharmaceutical industry, we implement EMS systems for monitoring critical parameters within contamination-controlled environments.



PHARMA FINISHING

Depending on the characteristics of the product handled within the cleanroom, we define the most suitable materials to compose the enclosure for environmental contamination control.

In particular we realize:

- Movable walls
- False ceilings
- Doors
- Visuals
- Floors
- Pass-boxes



START UP, COMMISSIONING & VALIDATION

CSV Construction handles pre-commissioning start-up, commissions, and validation phases. Technical documentation from suppliers is collected and archived in order to build a Mechanical Catalog (which will form the basis of the future vTOP file).

The tests normally carried out during the Construction and pre commissioning phase, are documented with an appropriate format so that they can be a valuable support to the drafting and execution of IQ/OQ Protocols.

- FAT/SAT assistance and support
- URS, VMP GMP review
- DQ, IQ, OQ, PQ protocols writing and execution





OUR SOLUTIONS

CSV Construction over the years has consolidated and gained great experience and reliability for the construction specifically of:

- Class A, B, C, D clean rooms
- Laboratories
- Pharmaceutical warehouses
- Weighing rooms
- Laminar flow hoods
- Drying plants
- Dedusting plants
- Fluid distribution networks
- CED - electronic
- Metrology chambers







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