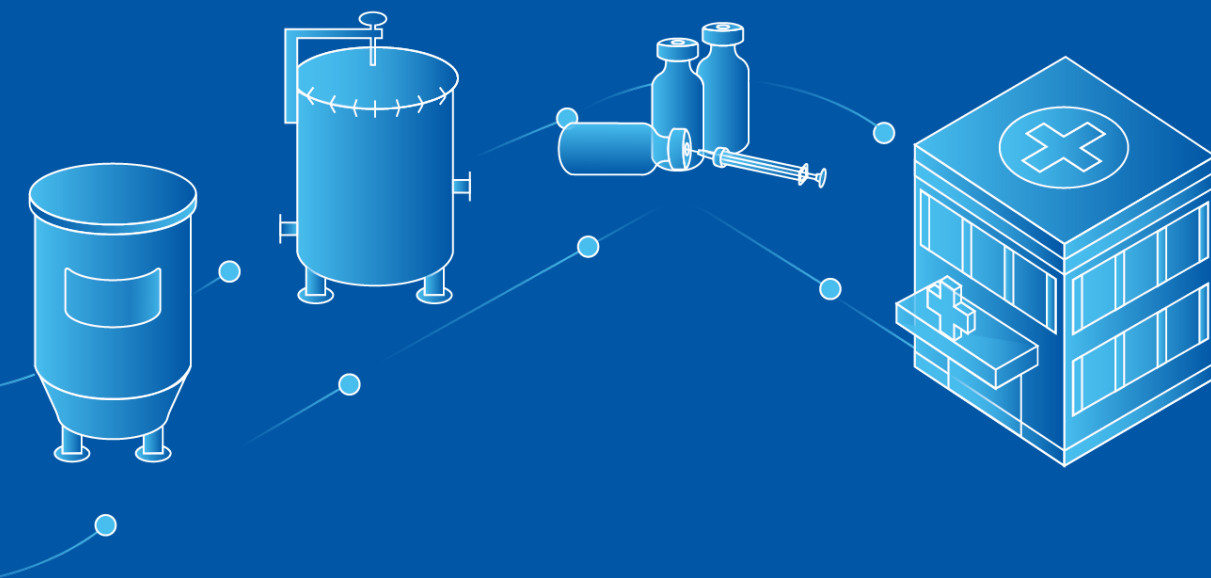




Commissioning, Qualification and Validation



Delivering Excellence in Automation,
MES and Digital Manufacturing Direct
to the Life Science Industry

Powering Patient Health
www.zenithtechnologies.com

Commissioning, Qualification and Validation (CQV)

- + Computer Systems Validation (CSV) programme delivery
- + Development of risk-based approaches to testing
- + Vigorous testing, validation and quality assurance
- + Facility start up and hyper care
- + Commissioning, Qualification and Validation (CQV) team support

Testing, validation
and quality assurance
guaranteed



Challenges

- 01 Implementing a risk-based approach to the project lifecycle
- 02 Creating CSV plans that support commissioning plans
- 03 Resourcing FAT Teams
- 04 Executing Automation Test protocols to support CTPs
- 05 Supporting CQV teams with Automation & MES expertise
- 06 Change Control Execution
- 07 Cost & time taken for CSV

The true test of the success of Automation, MES and Quality Control (QC) Lab Software is when it arrives on site. Ensuring the Commissioning, Qualification and Validation (CQV) process runs smoothly is critical to project success and it is a journey that starts early in the project lifecycle with the Computer Systems Validation (CSV) plan.

Services

The full range of services available from Zenith's CQV team is:

CSV TESTING AND SOFTWARE TEAMS

- 01 Creation of CSV Master Plan
- 02 Execution of the full risk management lifecycle including the execution of the risk assessments driving actions
- 03 Provision of site CSV teams with managed oversight and reporting
- 04 Provision of Factory Acceptance Testing (FAT) teams
- 05 Provision of Automation, MES and QC Lab IT resources to support CQV

Meeting your challenges

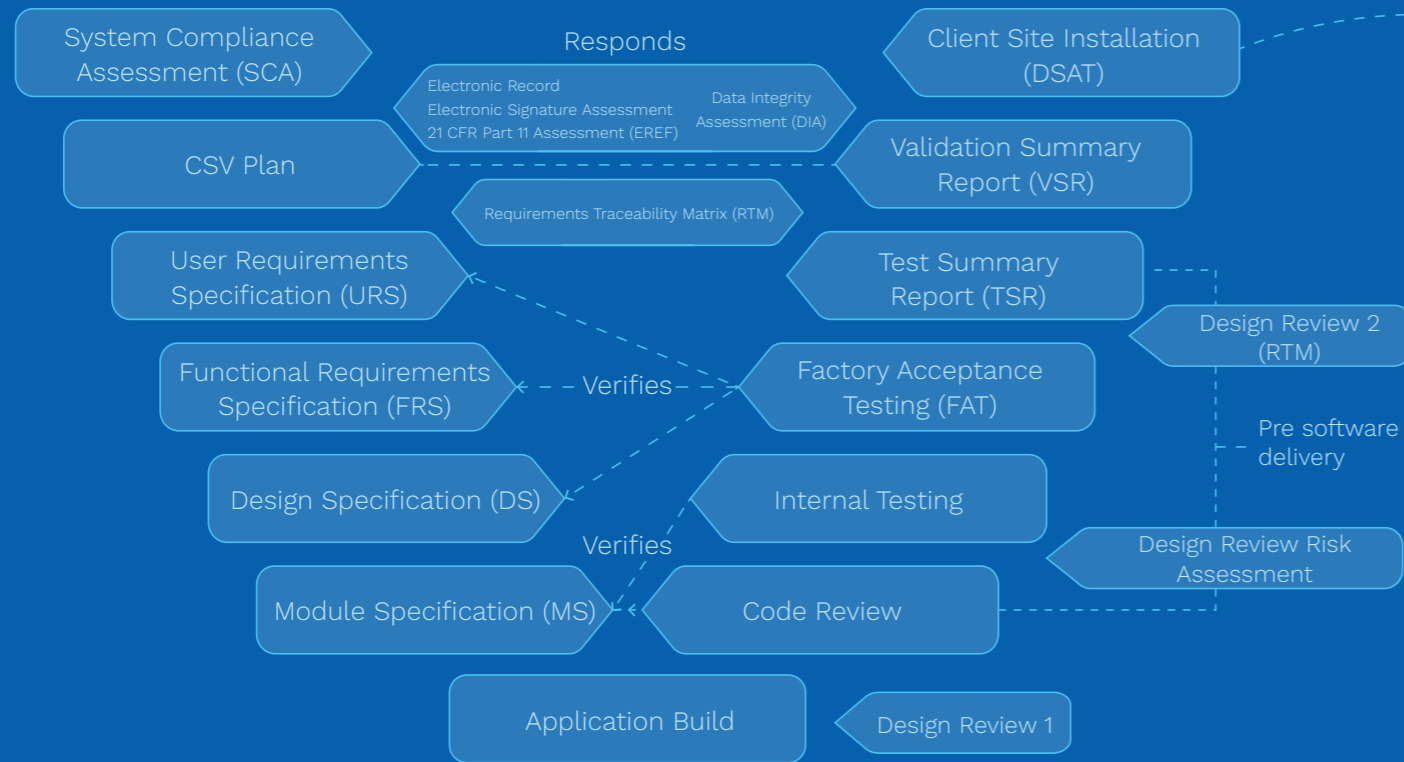
The CSV plan and execution ensures that the delivered manufacturing systems satisfy regulatory expectations. Zenith Technologies ensure that your software and systems are fit for intended use and satisfy the requirements for design, installation, operation and performance. Our approach integrates CSV with CQV and applies the concepts and principles outlined in:

- 01 FDA Pharmaceutical cGMPs for the 21st Century—A Risk-Based Approach
- 02 ASTM E2500 - 13 Standard Guide for Specification
- 03 Design, and Verification of Pharmaceutical and Biopharmaceutical Manufacturing Systems and Equipment
- 04 International Council for Harmonisation (ICH)* Framework
- 05 ISPE – GAMP 5 Guide: Compliant GxP Computerized Systems

* ICH Q8 (R2) Pharmaceutical development
ICH Q9 Quality risk management
ICH Q10 Pharmaceutical quality system
ICH Q11 Development and manufacture of drug substance

Delivering Qualified Software

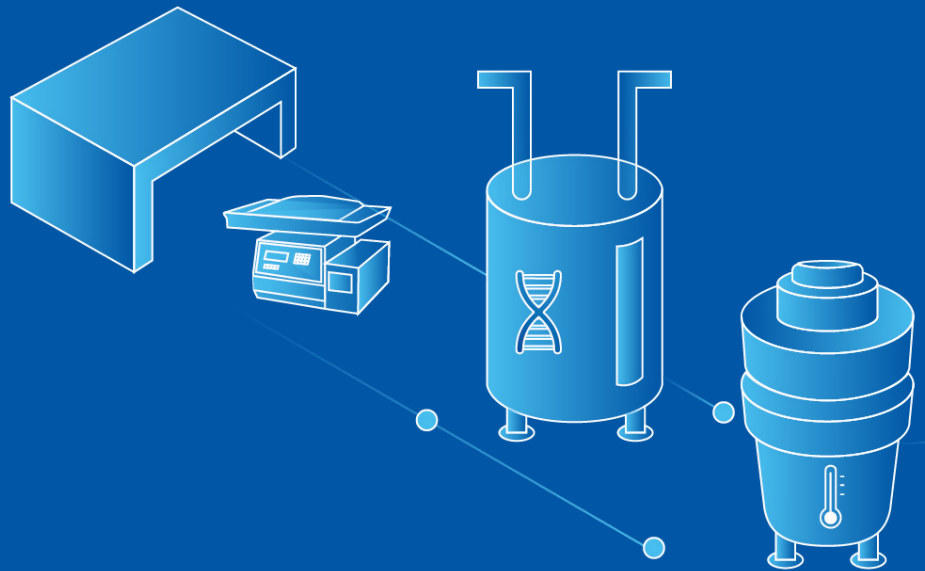
Zenith CSV Activities



Zenith/ Client CSV Activities



Your Global Life Science Partner Powering Patient Health



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