

Systems Integrator Scope of Work

A controls-specific scope of work for automation projects, written from the plant's side. Thirteen sections, each with the questions it must answer, plus a responsibility matrix, an acceptance test script and a pre-signature checklist.

Project	_____	Site / line	_____
Plant owner	_____	Integrator	_____
Revision	_____	Date	_____

How to use this template

1. Fill every section with plant-specific detail. A section left generic is the section that becomes a change order.
2. Approve the functional requirements specification (section 3) before the build starts. Acceptance is measured against it.
3. Give every row of the responsibility matrix (section 4) exactly one owner per column.
4. Run the pre-signature checklist on the last page against the integrator's proposal before anyone signs.

This is an engineering template, not legal advice. Review commercial and legal terms with your procurement and legal teams.

1 Objectives and success criteria

- What must the system achieve, in plant terms? Throughput (units per hour), cycle time, changeover time, recipe count, downtime or yield targets.
- How will each objective be measured, and over what period?

Example: "The line shall run 120 cases per minute at rated speed with product changeover under 10 minutes, demonstrated over three consecutive shifts during SAT."

Objectives and measurable success criteria

2 Deliverables

- List artifacts the plant can take possession of and verify, not outcomes. "A working line" cannot be accepted at a table.
- State the format of each: native project files, not read-only exports.

Deliverable	Format	Due at milestone	Accepted by
Approved functional requirements specification			
Electrical and panel drawing set			
Tested control panel(s)			
PLC, HMI and SCADA source code and project files			
Signed FAT and SAT records			
As-built documentation set			
Training materials and attendance records			

3 Functional requirements specification (FRS)

- Control narrative and sequence of operations.
- I/O list, with tag names to the plant's naming standard.
- Alarm list, with priorities and operator responses.
- Test of a good FRS: a second integrator could build the same system from it.

FRS document reference, revision and approval date

4 Hardware and software responsibility matrix

Exactly one accountable owner per cell. Add rows for every item on the project: switches, server OS, database, remote access, and any OEM machine controls already on the floor.

Item	Buy	Configure	Install	Commission
PLC hardware				
Control panel				
Field wiring				
PLC program				
HMI and SCADA				
Network switches				
Historian and server				
Remote access				
OEM machine controls interface				

5 Integration boundaries and terminal points

- Name every interface where one party's scope stops and another's starts, classify it by risk, and give it a single point of responsibility.
- The classic disputes: panel-to-field wiring, the network drop into plant IT, the ERP or MES handoff, existing OEM controls.

Example: "The integrator terminates and verifies all I/O to the field junction boxes listed in drawing E-204. Field-side wiring from junction box to device is by the plant's electrical contractor."

Interface	Integrator side	Other side (who)	Spec / message format	Tested by
Panel to field devices				
OT network to plant IT				
SCADA to ERP or MES				
New controls to OEM machines				

6 Standards and documentation

- Code standard, tag-naming convention, drawing standard, as-built requirement.
- The exact documents to hand over, and in what format.
- A recognised reference both sides accept, such as the CSIA Best Practices and Benchmarks manual.

Standards referenced and documentation set

7 Acceptance criteria: FAT and SAT

- Require both a factory acceptance test (FAT, at the integrator's shop) and a site acceptance test (SAT, on the installed system). Name who witnesses each.
- Every test case traces to an FRS line, P&ID reference or named standard (IEC 62381 covers FAT and SAT for automation systems).
- Include historian and data capture, and cybersecurity checks (account hardening, remote access), in the FAT, not as follow-ups.
- Hold 30, 60 and 90 percent design reviews so gaps surface before the FAT.

#	Requirement (FRS ref)	Test case	Pass criterion	FAT	SAT
1					
2					
3					
4					
5					

8 Change-order process

- How a change is requested, priced and approved, and by whom.
- State that no out-of-scope work proceeds without a signed change order.

Request route · pricing basis · approver(s) · response time

9 Schedule and milestones

Tie milestones to acceptance events, not calendar dates alone.

10 Payment terms

Tie payment to the same acceptance events, so money moves when the work passes.

Milestone (acceptance event)	Target date	Payment %	Evidence of completion
FRS approved			
Design reviews complete (30 / 60 / 90 %)			
FAT passed			
SAT passed			
Punch list closed, handoff accepted			

Fixed price or time and materials? A fixed price only holds against a tight scope. A defensible pattern: time and materials for the definition phase that produces the FRS, then a fixed price for the build.

11 Warranty and support

- Warranty period, what it covers, and response time for a defect.
- Spare parts responsibility, firmware and software update obligations after handoff, and any follow-on support agreement.

Warranty terms and support arrangement

12 Intellectual property and source code

- Who owns the PLC program, the HMI and SCADA application, and the project files.
- That the plant receives unlocked, commented source code and project files at handoff.
- Whether a source-code escrow arrangement applies.

Example: "At handoff the plant receives complete, unlocked and commented source code and native project files for every PLC, HMI and SCADA application delivered under this scope, with no passwords or know-how protection withheld."

Ownership and source-code clause

13 Training and handoff

- Operator and maintenance training, each with its own acceptance.
- The as-built documentation set and the final handoff package as named deliverables.

Training sessions, audiences and handoff package contents

Pre-signature checklist

Run this against the integrator's proposal before anyone signs. Every unchecked box is a likely change order.

- ☐ Objectives are measurable, with a stated test period
- ☐ Deliverables are artifacts with formats, not outcomes
- ☐ An FRS exists, or producing and approving one is the first milestone
- ☐ Every responsibility matrix cell has exactly one owner
- ☐ Every integration boundary is named, with one point of responsibility
- ☐ Data, historian and ERP or MES interfaces are in scope and in the FAT
- ☐ Cybersecurity validation is in the acceptance tests
- ☐ FAT and SAT test cases trace to FRS lines, with written pass criteria
- ☐ Milestones and payments are tied to acceptance events, not dates
- ☐ A change-order process is written, and no out-of-scope work proceeds without a signed change order
- ☐ The commercial model (fixed price or time and materials) fits how well the scope is actually known
- ☐ Warranty, spares and update obligations are named
- ☐ The plant receives unlocked, commented source code and project files at handoff
- ☐ Training and the handoff package have their own acceptance

Approvals

Plant owner: name, title, signature, date

Integrator: name, title, signature, date

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The companion article: joltek.com/blog/systems-integrator-scope-of-work. For an independent review of a proposed scope before it is signed, see joltek.com/services/owners-engineer.

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