

SAP integration preparation kit

Read the guides, clarify the project questions and complete the worksheet with your team.

01 SAP production integration: eight decisions before connecting

Design the interface, business transaction, access rights and retry behaviour together for an SAP ECC or S/4HANA project.

02 Production traceability: connect batch, equipment and time

Turn material movements into queryable events for food, automotive and process manufacturing.

03 Project worksheet

Space for meeting notes, owners and acceptance evidence.

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This workbook is a planning aid. Product version, plug-in availability and licence scope must be verified for the project.

SAP production integration: eight decisions before connecting

Design the interface, business transaction, access rights and retry behaviour together for an SAP ECC or S/4HANA project.

Define the business event

Sending production data to SAP is not a single operation. Production confirmations, material consumption, quality results and maintenance notifications carry different business rules. Establish which event will change which SAP object. Map line, plant, production order, material and unit of measure to their source fields. A PLC counter cannot reliably become an ERP transaction until its operational context is defined. Decide who owns corrections when the machine data is technically valid but the business context is wrong.

Validate the interface with the SAP team

OPC Router supports SAP connections using interfaces such as RFC, BAPI and IDoc. Validate the SAP version, deployment model, permitted interface and licence scope for the actual project. Do not transfer an assumption about S/4HANA on-premise to Public Cloud. Work with SAP Basis and application specialists to define the function, technical user, network path and development-to-test-to-production promotion. Record destination transaction limits and any maintenance windows. Confirm required runtime components against the manufacturer's documentation.

Prevent duplicate business postings

If the network drops before a response arrives, SAP may already have completed the transaction. Resending the message can create another business posting. Associate the source event identifier, business key and returned SAP document. Consider querying destination state before retrying or enforcing uniqueness at the receiving application. A technical acknowledgement is not necessarily confirmation that the business transaction has completed; monitor them as separate states. Failed business validations need a correction workflow, not an endless retry loop.

Test with the business owner

Write down eight decisions: business event, interface, field mapping, access, trigger, retry policy, error ownership and acceptance criteria. Include unknown materials, closed orders, unit mismatches and permission denials in the test set. Check the processing order of queued messages after connectivity returns. Agree when the previous manual workflow stops and how it resumes during rollback. Keep a reconciliation report that connects source events with destination documents so both engineering and operations can review the same evidence.

Technical references

OPC Router SAP interfaces

https://www.opc-router.com/sap-systems-opc-ua-router_en/

Production traceability: connect batch, equipment and time

Turn material movements into queryable events for food, automotive and process manufacturing.

Identify the relationships you need

Traceability is more than logging process values. Link input batch, production order, equipment, process step and output batch. Define the physical event represented by each barcode or RFID read. Model cases where one batch travels through several lines or several inputs merge into one output. Free-text identifiers can increase matching errors. Agree which system assigns each identifier and how it is validated at the point of capture.

Record context with each event

An event record can contain source identifier, event identifier, timestamp, operation type, quantity, unit and quality state. Preserve shared business keys so input-output relationships can be reconstructed. If an operator needs to correct a record, keep a correction event rather than erasing the previous value. Test local buffering and later synchronisation for stations that operate without a continuous connection. Distinguish the time the movement occurred from the time the central system received it.

Plan for unreadable codes

Define what happens when a barcode cannot be read or a batch is missing from ERP. Show an actionable error to the operator and establish an authorised correction and reprocessing step. A connection timeout and an unknown batch are different conditions. Use unique event identifiers so resending does not create a second material movement. Ordering matters particularly when batches split or merge. Keep technical failures visible without allowing ambiguous records to silently enter the accepted history.

Accept the system through queries

In the pilot, query backwards from an output batch to its inputs and forwards from an input batch to its outputs. Check quantity balance, event order, duplicates and missing relationships. Quality and operations teams should define record-retention needs. This technical record structure does not by itself certify compliance with any particular regulation or customer standard; required scope must be validated separately. Keep sample acceptance queries with the project handover so future changes can be checked against the same expectations.

Technical references

OPC Router integration platform
<https://www.opc-router.com/>

03 / PROJECT WORKSHEET

Complete with your team.

Project / plant: _____

Date / owner: _____

Decision / check	Notes, owner and verification
SAP version / deployment model	
Interface / technical user	
Source field > destination field	
Unit / order / plant	
Event ID / SAP document ID	
Business error / retry decision	

Next step

Share your open questions and source-destination systems with info@opcturkey.com. Interactive tools:
opcrouter.com.tr/en/tools