

SAP MM — Advanced End-to-End Implementation Case Study

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Business Scenario

MetroBuild Group is a diversified infrastructure company with multiple business units across India — commercial construction, metro rail projects, and highway expansion. They require a fully automated Procure-to-Pay (P2P) system in SAP S/4HANA MM integrated with FI, SD, and PP modules. The implementation should support multi-company, intercompany, subcontracting, and consignment scenarios, ensuring full traceability of procurement and valuation.

Objective

Design, configure, and validate an advanced SAP MM solution that manages complex procurement, valuation, and reporting requirements for MetroBuild Group. The solution should integrate seamlessly with FI for financial postings, SD for intercompany billing, and PP for production consumption.

1. Enterprise Structure Configuration

Create and assign the following entities:

- Company Codes: MB01 (MetroBuild Infra Pvt Ltd), MB02 (MetroBuild Equipments Ltd)
- Plants: MUMB1, DELH1, CHEN1
- Storage Locations: CEM1, STE1, ELE1, RAW1
- Purchasing Orgs: MBP1 (Central), MBP2 (Local)
- Purchasing Groups: MBG1 (Raw Materials), MBG2 (Machinery), MBG3 (Services)
- Assign each company code to controlling area and define cross-company settings for intercompany transactions.

2. Material Master Management

Create material types and maintain all necessary views:

- ROH (Raw Material) — Cement, Steel
- HAWA (Trading Goods) — Tools, Accessories
- FERT (Finished Goods) — Precast Blocks
- HALB (Semi-Finished Goods) — Reinforced Frames

Enable Split Valuation for “Steel” based on origin (Domestic, Imported, Recycled).

Maintain material valuation class, price control, MRP type, procurement type, and purchasing data.

3. Vendor Master and Partner Roles

Create and maintain vendor master records with partner functions and bank details.

- UltraCem Ltd. — Domestic supplier for Cement
- Bharat Steels Pvt. Ltd. — Steel supplier (Domestic and Imported)
- BuildMach Imports Co. — Import supplier for Machinery
- ConsignTrade Ltd. — Consignment supplier

Maintain vendor evaluation criteria: Delivery, Price, Quality, and Service.

4. Advanced Procurement Scenarios

Implement the following procurement scenarios:

- a) Standard Procurement — Create PRs and convert to POs automatically (ME59N).
- b) Subcontracting — Configure BOM for semi-finished goods, maintain component consumption.
- c) Consignment Procurement — Enable consignment stock and settlement (MRKO).
- d) Intercompany Stock Transfer — Between MB01 (MUMB1) and MB02 (DELH1) using STO with delivery and billing.
- e) Service Procurement — Use service-based PO for maintenance work.

5. Purchase Info Record, Source List & Quota Arrangement

Maintain purchase info records (ME11) for material-vendor combinations, defining price, freight, and validity.

Activate source list requirement and maintain source list for critical materials. Define quota

arrangement for shared vendors.

6. Purchase Order Release Strategy

Design release strategies for PO approval:

- Multi-level release: Engineer → Manager → CFO
- Condition: PO value > INR 10,00,000 or material group = Machinery

Include workflow configuration for release approval using SAP Business Workflow.

7. Goods Receipt and Inventory Management

Perform GR (MIGO) for all purchase orders, ensuring correct stock updates.

- Enable batch management for Cement and Steel.
- Configure automatic account determination for valuation class.
- Validate stock levels using MMBE and MB52 reports.

8. Invoice Verification and FI Integration

Execute MIRO for 3-way match (PO, GR, Invoice). Post accounting documents and validate automatic FI postings in BKPF/BSEG tables.

Test GR/IR clearing account and simulate blocked invoice scenarios.

9. Subcontracting and Consumption

For subcontracting materials, create BOM and ensure consumption of components during GR.

Run MB1B / MIGO for transfer posting and verify material consumption against production order in PP integration.

10. Vendor Evaluation and Reporting

Run ME61 for vendor evaluation scoring based on defined criteria.

Create custom report ZMM_VENDOR_ANALYSIS using ALV grid display for vendor performance by month, material group, and plant.

11. Custom Developments

a) Create custom report ZMM_STOCK_ANALYSIS — Stock aging with valuation type split.

- b) Implement BADI: ME_PROCESS_PO_CUST — to enforce validation on specific PO conditions.
- c) Use BAPI: BAPI_PO_CREATE1 to automate PO creation from external file input.

12. Integration Points

- FI Integration: Automatic postings to GR/IR and expense accounts.
- SD Integration: Intercompany billing using delivery-based STO.
- PP Integration: Material consumption posting to production orders.

13. Reporting & Analysis

Generate analytical reports:

- ZMM_PURCHASE_ANALYSIS — PO value by vendor, month, material type.
- ZMM_STOCK_VALUATION — Current stock value by valuation class.
- ZMM_CONSUMPTION_ANALYSIS — Material issue vs purchase trends.

Expected Output

- Fully configured P2P cycle including advanced procurement, valuation, and intercompany processes.
- Working release workflow.
- Integration validation with FI, SD, PP.
- Vendor scorecards and analytical reports.
- Automated posting and stock movement simulation.