White Paper: Selective Data Transition Strategy for SAP S/4HANA Migration with Regional Separation

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Subject: Strategic Approach for Segmented S/4HANA Migration While Maintaining US LLC Operations in SAP ECC

Executive Summary

This white paper outlines a strategic framework for Swiss Metals LLC to execute a **Selective Data Transition (SDT)** migration to SAP S/4HANA while maintaining critical US-based operations (US FI/CO, EHS, QM modules) in the existing SAP ECC environment. The proposed approach enables a phased, risk-mitigated transition where European operations migrate to S/4HANA while US operations continue running on ECC until a subsequent wave. This hybrid operating model requires careful planning around data separation, integration mechanisms, and process continuity to ensure business operations remain uninterrupted during and after the transition.

The core recommendation is a **three-phase discovery and planning process** focused on:
1) **Process & Data Segmentation**,

2) **Technical Architecture Design**, and

3) **Transition Roadmap Development**.

Success depends on early identification of interdependencies, establishment of clean integration points, and a robust data governance framework that supports both transitional and target operating states.

1.0 Introduction: The Swiss Metals Challenge

Swiss Metals faces a complex migration scenario common to global organizations with regional legal structures:

- **Parent/European Entity:** Transitioning to S/4HANA (all modules)

- **US LLC Subsidiary:** Maintaining operations in SAP ECC for specific modules (US-specific FI/CO, EHS, QM) due to regulatory requirements, customization investments, or timing constraints

- **Shared Historical System:** Currently operating on a single SAP ECC instance with integrated data across regions

- **Objective:** Migrate European operations to S/4HANA while keeping US LLC operations stable in ECC, then eventually migrate US operations in a subsequent wave

Key Business Drivers:

- Regulatory compliance with US-specific requirements (tax, environmental, quality)

- Minimized disruption to US operations during initial go-live

- Capitalization on S/4HANA benefits for core European manufacturing/supply chain

- Gradual transition of complex customizations (EHS, QM)

2.0 Understanding the Selective Data Transition (SDT) Approach in This Context

2.1 What Makes This SDT Different?

Traditional SDT involves selecting data subsets within a single system migration. In Swiss Metals' case, **SDT takes on an additional dimension: geographical and legal entity segmentation**.

The Selective Criteria Are:

1. **Legal Entity-Based:** Data belonging to European entities migrates; US LLC data remains

2. **Module-Based:** MM, SD, PP, European FI migrate; US FI/CO, EHS, QM remain

3. **Temporal-Based:** Open transactions for migrating entities move; historical data may be archived or selectively migrated

4. **Integration-Point Based:** Master data shared across regions must be synchronized

2.2 The Hybrid Operating Model (Transition State)

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PHASE 1: CURRENT STATE

[Single SAP ECC Instance]
```
  |
  ├── European Operations (MM, SD, PP, FI, CO)
  ├── US LLC Operations (MM, SD, PP, US-FI/CO, EHS, QM)
  |
  ▼
```

PHASE 2: TRANSITION STATE (Post Wave 1)

[Separate Systems Operating in Parallel]
```
  |
  ├── SAP S/4HANA System
  |   ├── European Operations (All modules)
  |   └── Shared Master Data (Vendors, Customers, Materials)
  |
  ├── SAP ECC System
  |   ├── US LLC Operations (US-specific modules + remaining MM/SD/PP)
  |   └── Shared Master Data (Synchronized)
  |
  └── Integration Layer (A2A, Master Data Sync, Financial Consolidation)
```

PHASE 3: TARGET STATE

[S/4HANA Consolidation]
```
  |
  └── Single S/4HANA Instance (All regions, all modules)
```

3.0 Discovery Phase: Critical First Steps

3.1 Process Interdependency Mapping

Activity 1: Cross-Regional Process Analysis

- Map all business processes that span European and US operations

- Identify "hand-off" points where transactions cross entity boundaries

- Document integration requirements for:

    o Intercompany sales/purchases

    o Consolidated financial reporting

    o Global material movement

    o Shared vendor/customer management

    o Quality management across regions

Deliverable: Process Interdependency Matrix with integration risk scoring

3.2 Data Segmentation Strategy

Activity 2: Entity-Level Data Profiling

- Complete inventory of all master and transactional data by:

    o Company code

    o Plant

    o Storage location

    o Document types

- Identify "shared" vs. "region-specific" data elements:

    o **Shared:** Global vendors, customers, material masters

    o **Region-Specific:** US-specific GL accounts, EHS substance data, QM inspection plans

Activity 3: Data Cleanse & Separation Readiness

- Assess data quality for segmentation readiness

- Identify data that requires cleansing before separation

- Define rules for splitting shared data elements:
  Example: A vendor used by both regions must be maintained in both systems with synchronization rules

Deliverable: Data Segmentation Blueprint with cleansing requirements

3.3 Technical Landscape Assessment

Activity 4: System-of-Record Analysis

- For each data domain and process, determine:

  o   Primary system of record during transition

  o   Integration direction and frequency

  o   Fallback procedures for integration failures

- Evaluate current ECC customizations (Z-programs, enhancements):

  o   Which are US-specific (must remain in ECC)?

  o   Which are global (need to be migrated/rebuilt)?

  o   Which are obsolete (can be retired)?

Activity 5: Integration Pattern Design

- Design integration mechanisms for the transition period:

  o   **Master Data Synchronization:** ALE/IDocs, SAP PI/PO, or middleware

  o   **Transactional Integration:** For cross-region business processes

  o   **Financial Consolidation:** Eliminating intercompany transactions across systems

  o   **Reporting:** Combining data from both systems for global visibility

Deliverable: Technical Architecture Design Document

4.0 Strategic Considerations & Decision Framework

4.1 To Split or Not to Split: The Client/Server Code Dilemma

The most critical technical decision involves company code structure:

Option A: Complete Company Code Separation

- Move European company codes to S/4HANA

- Leave US company codes in ECC

- **Pros:** Clean separation, easier data migration

- **Cons:** Requires reconfiguration of all cross-company processes

Option B: Partial Company Code Split

- Keep some shared company codes during transition

- Use data segregation techniques within same codes

- **Pros:** Maintains existing cross-company processes

- **Cons:** Complex data extraction, higher migration risk

Recommendation: Complete separation (Option A) provides cleaner long-term architecture despite near-term process redesign requirements.

4.2 Integration Architecture During Transition

Essential Integration Components:

1. **Master Data Governance Hub:** Central authority for shared master data with bi-directional sync

2. **Transaction Replication:** For critical cross-system processes (e.g., intercompany stock transfers)

3. **Financial Closing Workbench:** Tool to consolidate financials across S/4HANA and ECC

4. **Single Sign-On & Navigation Portal:** Unified user experience across both systems

4.3 Data Migration Strategy: The SDT Execution

For European Data Migrating to S/4HANA:

- Apply standard SDT principles: migrate only active master data and open transactions

- Archive historical data from ECC (accessible via ILM or Data Aging)

- Use SAP Migration Cockpit with custom filters for entity selection

For US Data Remaining in ECC:

- Ensure ECC system remains compliant and supported

- Consider ECC enhancement package upgrades if needed

- Plan for eventual US migration to S/4HANA (design with future state in mind)

5.0 Recommended First Steps (90-Day Plan)

Phase 1: Foundation (Weeks 1-4)

1. **Stakeholder Alignment Workshop:** Secure agreement on principles, constraints, and success criteria

2. **Form Core Team:** Include representatives from European and US business units, IT, and external partners

3. **Initial Assessment:** Quick-win analysis of easiest-to-separate processes

Phase 2: Deep Discovery (Weeks 5-8)

1. **Process Workshops:** Detailed mapping of 5-7 critical cross-region processes

2. **Data Analysis:** Profiling of key data objects (Material Master, Vendor Master, GL)

3. **Technical Assessment:** Review of current interfaces, custom code, and infrastructure

Phase 3: Roadmap Development (Weeks 9-12)

1. **Options Analysis:** Present 2-3 separation approaches with pros/cons

2. **High-Level Plan:** Timeline, resource requirements, cost estimate

3. **Governance Model:** Decision rights, change control, communication plan

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6.0 Risk Mitigation & Success Factors

Critical Risks:

1. **Business Process Disruption:** Cross-region transactions failing during transition

2. **Data Integrity Issues:** Master data becoming inconsistent between systems

3. **Extended Dual Maintenance:** Cost and complexity of running two systems

4. **Timeline Creep:** US migration delayed indefinitely

Mitigation Strategies:

1. **Parallel Run:** Critical processes run in both systems for 1-2 periods

2. **Integration Monitoring:** Real-time alerts for sync failures

3. **Clear Sunset Provision:** Contractual agreement on US migration timeline

4. **Phased Approach:** Start with least interdependent processes first

Key Success Factors:

1. **Executive Sponsorship:** From both European and US leadership

2. **Business-Led Design:** Process owners drive separation decisions

3. **Clean Core Philosophy:** Minimize customizations in S/4HANA

4. **Future-State Vision:** All decisions support eventual single S/4HANA instance

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7.0 Conclusion

For Swiss Metals, a Selective Data Transition approach with regional separation represents both a significant challenge and strategic opportunity. By carefully segregating US LLC operations while migrating European operations to S/4HANA, the organization can:

- Achieve S/4HANA benefits for core operations sooner

- Respect US regulatory and operational constraints

- Create a template for eventual full consolidation

- Minimize business disruption through phased approach

The discovery process outlined here provides a structured methodology to navigate the complexities of this hybrid migration. Success will depend on rigorous analysis of interdependencies, clear architectural decisions, and strong governance throughout the transition period.

Next Step Recommendation: Initiate a 4-week assessment engagement to validate assumptions, identify show-stoppers, and create a detailed business case for the preferred separation approach.

Appendix A: Sample Interdependency Checklist
Appendix B: Tools for Data Profiling & Separation
Appendix C: Reference Architecture Diagrams

This white paper provides a strategic framework for planning purposes. Detailed technical specifications and project plans should be developed following the discovery phase with appropriate subject matter experts engaged. Please contact M.Hart Solutions for further assistance.

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