

Replacing Legacy Middleware with a Scalable ERP to MES Integration Model



With SAP MII and the modern SAP Digital Manufacturing path forward

Two SAP ERP-based manufacturers needed to decide whether to upgrade aging middleware or replace it with a more scalable integration model.

One, a **pharmaceutical manufacturer** that needed to address changes in its corporate structure and modernize a WebSphere-based integration solution. The other, a **heritage brewery** that had deployed an ERP to shop floor interface using third-party middleware. Both organizations needed a reliable way to support real-time, bi-directional data flow between SAP ERP and plant-level MES systems.

RTS was engaged as a trusted advisor to evaluate the **MES and ERP landscapes, assess long-term compatibility, and recommend a lower-risk path forward.** We proposed replacing the existing middleware layers with a standardized SAP MII interface between ERP and MES systems.

Today, that same concept has a cleaner and more efficient path through SAP Digital Manufacturing. SAP MII has evolved into a more modern replacement path with SAP DM. Many manufacturers still think of SAP MII as the standard interface between SAP ERP and the shop floor, but SAP DM is now replacing SAP MII for many manufacturing execution and integration use cases.

The Challenge

RTS was tasked with helping both manufacturers move from aging middleware to a more stable “fit to standard” integration model that could:

1. Support real-time, bi-directional data flow between ERP and MES
2. Reduce the cost and risk of custom middleware upgrades
3. Maintain compatibility with SAP ERP and future S/4HANA releases
4. Scale to support new production and plant-level integration needs

Additional operational requirements included:

Middleware Modernization: Existing integration tools required either costly upgrades or replacement.

ERP Compatibility: Interfaces needed to remain compatible with the latest SAP S/4HANA release.

Production Continuity: Shop floor systems needed to continue operating during network issues, ERP maintenance, or unplanned downtime.

Bi-Directional Messaging: The solution had to support ERP to MES and MES to ERP data exchange.

Long-Term Scalability: Both companies needed an integration platform that could expand as new plant-level requirements emerged.

Reducing integration risk while improving real-time manufacturing data flow.

+30 Years of
experience

Over **500**
satisfied clients

Over **3,000**
projects executed

RTS replaced the legacy middleware environments with SAP MII, creating a standard integration layer between SAP ERP and MES systems.

For the pharmaceutical manufacturer, **RTS** supported data transfer from SAP ERP to a Rockwell MES system. The interface processed Bill of Material, stock status, material master, process order, recipe, and goods issue and goods receipt transactions.

For the brewery, **RTS** replaced the existing interface between SAP PP-PI and GE Proficy MES. The solution supported control recipe downloads, bi-directional process message downloads, and monitoring and logging for support.

Both projects were delivered in **less than 12 weeks**. By standardizing on SAP MII, the manufacturers gained a cost-effective, flexible, and scalable integration model while reducing business risk.

Today, **SAP Digital Manufacturing** provides a cleaner, cloud-based path to deliver the same ERP to MES integration outcomes. SAP DM reduces dependency on custom middleware, aligns with SAP's modern manufacturing roadmap, and simplifies long-term support.

RTS applies the same factory-grounded integration discipline to SAP DM projects, helping manufacturers connect business systems, production processes, and shop floor data through a more standardized architecture.

Key Benefits

- **Lower Total Cost of Ownership:** Reduced reliance on custom development by leveraging SAP ERP and SAP MII integration capabilities.
- **Seamless ERP Integration:** Established an SAP-centric standard for shop floor integration to ERP, reducing risk and future upgrade impact.
- **Improved Production Continuity:** Enabled data buffering so shop floor systems could continue during network issues, ERP maintenance, or unplanned downtime.
- **Lower Business Risk:** Replaced obsolete middleware with a more reliable SAP-based integration platform.
- **Shop Floor Visibility:** Standardized manufacturing data flow through one system of record, supporting operational reporting and analysis.
- **Scalable Integration Model:** Created a flexible foundation to expand and layer additional manufacturing functionality over time.
- **Modern SAP DM Path Forward:** SAP DM is replacing SAP MII as the modern manufacturing execution and integration platform, allowing the same ERP to MES model to be delivered more cleanly and efficiently.

RTS ERP to MES Integration Solution

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