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Filament nonwoven and monofilament producer changed over from SAP R/2 to SAP R/3 in record time.

Extremely short response times in the customized manufacture of polyester fiber specialties are characteristics for the daily business of the JohnsManville subsidiary in Bobingen. The main focus was on comprehensive introduction of SAP R/3, so as to replace an

extensively modified SAP R/2 system in good time. Maximized return to the SAP standard from the 80% level of modifications in SAP R/2 to only 20% add-ons in the new SAP R/3 system had to be accomplished in just seven months.

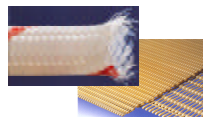


The American building materials conglomerate JohnsManville can look back on more than 140 years of corporate history. With almost 10,000 employees and a turnover of 2.2 billion US dollars (1999), it operates almost 60 facilities worldwide. The product range primarily comprises building and insulation materials, filter media and reinforcement fabrics .

The JM Group's six facilities in Germany include plants in Bobingen near Augsburg (polyester wires and nonwovens) and in Wertheim near Würzburg (glass-fiber fabrics). The next step in pan-European business integration is the introduction of SAP R/3 at the plants in Wertheim, Karlstein and Steinach. The facilities in Bobingen and Berlin were incorporated in the JM Group on 1 January 1999. In Bobingen, a workforce of 600, organized in two divisions, makes polyester wires (the Monofilament Division) and nonwoven materials (Spunbond Division). At the plant in Berlin spunbond is manufactured with a workforce of about 50 people.



Headquarters in Denver/Colorado, USA



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Of the 80% R/2 modifications found, only 20% add-ons remain in R/3.

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Introduction of US-GAAP in the FI module

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Client-friendliness and short response times are right at the top of the priority listing for JohnsManville, Bobingen, in a fiercely contested market. Reason enough for the JM Group to expect these characteristics from its SAP implementation partner as well. With effect from 1 January 1999, part of the former Hoechst subsidiary Trevira in Bobingen near Augsburg has belonged to the JohnsManville Group, a globally operating and dynamically growing producer of high-tech building materials and technical fabrics.

In the "Monofilament" Division, polyester wires are produced on a customized basis in an enormous variety of thicknesses, profiles and colors, for delivery all over the world. The second division, "Spunbond", manufactures polyester nonwovens, which for example are used in construction and filtering applications.

The market situation is characterized by increasing pressure on prices in a progressively more globalized competitive environment. Thus a variety of goals had to be coordinated in this introduction project under a specified time and budget framework. "We had to replace SAP R/2 and our old system punctually on 21 December 1999", says Peter Podraza, IT Manager at JohnsManville Europe, explaining the task involved. "And we wanted the environment introduced to be based as closely as possible on a standard SAP R/3 package, which can also be used for a roll-out concept throughout our European operations. Additional development work was needed to continue progressing JM's competitive advantage."

JM is proud of being the first-choice vendor for all leading automakers.

Roll-out aspects

At the Bobingen facility, SAP software has been in use since 1990. The business processes for SD and PP were previously imaged in SAP R/2, though numerous elaborate additional development features meant that approximately 80% of the functionality had been modified. The aim of changing over to SAP R/3 was simultaneously to ensure a maximized return to the SAP standard, so as to keep the care and maintenance outlay as low as possible. The pilot project in Bobingen was also designed as a model for gradual introduction of SAP R/3 at JohnsManville Europe, so as to minimize future introduction times at other facilities throughout Europe. So in all aspects of the project it was important to keep the future complex corporate structure of the group as a whole continually in mind for appropriate imaging, to ensure that the upcoming group rollout would subsequently proceed as smoothly as possible.

The separation into production, sales and service companies required under the American corporate management strategy was solved in style. The resultant logistics and invoicing transaction procedures involving more than one set of books could be almost entirely covered in compatibility with a client's consignment procedure in conjunction with the client's customized production process.

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A tight schedule

Notwithstanding this anticipation on a small scale of the overall project, only seven months were needed to incorporate the vast majority of the process chains into the SAP 4.0B standard. "We had to meet different and apparently contradictory requirements simultaneously" comments Peter Podraza, IT Manager of JohnsManville Europe. "On the one hand, the requirements for the system concerned would not emerge in their entirety until after our company had been taken over by the JM Group, which meant after the beginning of 1999, and on the other hand the project was definitively required to go live in January 2000. The procedures in the SAP R/2 system being replaced were characterized by 80% customized features centered around sales group processing and significant add-ons in dispatch processing."

Goal achieved

This was solved in SAP R/3 by the SAP configuration: in the wire production operation by classical customized manufacture with batch-classified inventory management of production residues, while for the nonwovens the warehouse-content variant process was selected. Though here, too, complete unambiguity in product descriptions could not be achieved. Both divisions were given the same procedure in terms of master data, so that now the company manages with a single maximal work schedule and a single maximal parts list for each BU, and the outlay for updating master data has decreased to zero.

Simple rules anchored in relational knowledge mean that each business occurrence can be flexibly interpreted. Individualized logic from the SAP user exits ensures that users' decisions can also be incorporated in the configuration. Further automation of the business processes, as comprehended under the keyword "Business-to-Business" in utilization of "my-SAP.com" has already been intentionally provided.

Procedure adopted

For project management, the ASAP methodology was employed, though the tight timeframe compelled some additional overlapping of individual project phases. In particular, prototyping was conducted as early as possible so as to ensure that key users could already be given an insight into "their" future SAP R/3 procedures shortly after the project began. However, data migration also had to be commenced very early on. Since SAP does not provide any methods for translating the sales groups/ versions into features/classes, these had to be created specially for this project - a tough challenge for OSCo's development people.

In both categories, further improvements were made in processing centered around the TRP (Technical Requirement Profile) – an aid to acquiring product features in the customer order.

The project's success, in spite of the tight deadline, was attributable not least to the system landscape, with the development, integration and production systems involved. "Under these conditions, you definitely need professional SAP transport and version management strategies on the part of your implementation partner", explains Peter Podraza.

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Variant configuration



The JohnsManville Group's SAP implementation partner is the consultancy firm OSCo Olbricht, Seehaus & Co. Consulting GmbH, located in Mannheim, Germany.

The firm's target group covers both large companies and SMEs. The major focuses of its SAP specialisms are the IS Mill Solution variant production and PP-PI (e.g. in the steel, wood or plastics processing industries and the chemical sector).

"The variant configuration solution implemented at JM can be transferred to many other sectors with products needing explanation. Related problems are encountered, for instance, in wire or cable production operations, in rolling mills, in the paper sector, and at all cutting-to-size industries."

"In OSCo, we have found an ideal implementation partner for solving these problems", Peter Podraza is sure. "We wanted firstly to utilize functionalities which had actually been announced only for later releases of SAP R/3, so as to anticipate as early as possible many requirements of the subsequent roll-out in the group. Secondly, in terms of our customized production operation, we wanted to ensure that every technically possible production variant can be configured and confirmed to the customer without any protracted planning work beforehand."

"The problems encountered here occur in various guises at all branches of industry manufacturing variants of one or more basic products", explains Hans-Jürgen Olbricht, OSCo's Managing Director. "Either you treat each product variant as a new development, so to speak, with the consequence that you end up having to manage hundreds of thousands of material numbers and development statuses. Or you configure a single master parts list once and for all with an associated work schedule, from which the variant you want can be interactively derived with absolute accuracy."

The daily business operations are characterized by a host of specialized requirements. 95% of the polyester wires, for instance, are not ordered by customers from stock, but have to be configured *ad hoc* in conformity with a never-ending series of new thickness, length, profile and color specifications. The selection of batch numbers - a type of manufacturing instruction - is performed as soon as the customer order is entered, so as to ensure a consistent level of quality, e.g. in abrasion-resistance for use in weaving carrier strips for paper manufacture.

This is a typical task for SAP R/3's variant configuration feature. "For this purpose, sales group processing had to be converted from SAP R/2 into SAP R/3's variant configuration function. This was successfully accomplished, because the important key users supported the business re-engineering required", reports OSCo's Hans-Jürgen Olbricht.

It was not only in the PP module that OSCo used the variant configuration feature to anticipate solutions that will be contained as standard only in later SAP releases. By skillful use of relational knowledge in the variant configuration function, thousands of parts lists and work schedules have been reduced to a single maximal parts list for each division, amenable to expansion at any time.

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US requirements

The feature variants are also adopted into other modules, and re-used, for example, in SD for order and dispatch processing.

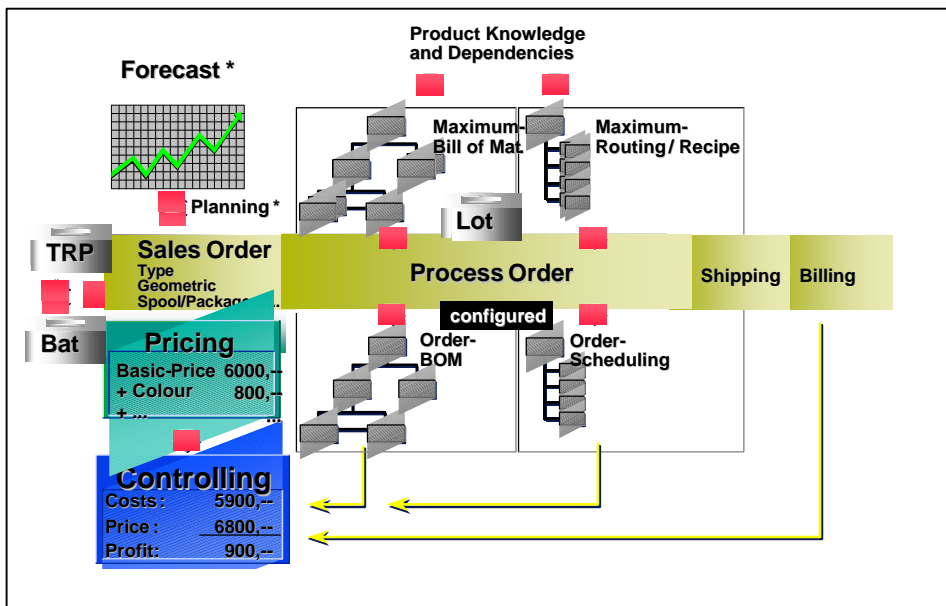
Package management with assignment of batches to the pallets waiting for shipment will later be transferred into the SAP standard. The imaging employed for the production process is pathbreaking, because it already incorporates the SAP Mill Solutions.

In addition, not only were the PM, IM and PS modules already introduced in the first stage of the project, but also the different valuation guidelines in conformity with the German Commercial Code (HGB) and US GAAP were incorporated in the FI module. Preparations have also been made for pan-European reporting and future expansion to include CO-PA and QM. In parallel to this, functional upgrades were implemented in PS (project system) and PM (maintenance).

Package management

Package management constituted a particular challenge. Firstly, data transfer from the old system had to be assured, and secondly precautions also had to be taken for use in other group divisions. The existing software in the old and newly introduced decentralized weighting systems had to be allowed for. And all options for future universal processing and compatibility with future SAP standards also had to be kept open.

Concept example for the Monofilament Division



TRP – Technical Requirement Profile
 Bat – Batch number – manufacturing alternative

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A procedure was selected in which the focus was on batch classification and the inheritance of batch features to the LIS (Logistics Information System). This meant that additional development work was kept within reasonable bounds.

Dispatch processing with packages had to be created in advance as an additional development, since the methods of HUM (Handling Unit Management) will not be available as an SAP standard until Release 4.5/4.6.

JM is now able to utilize a consistently harmonized processing concept for mixed pallet occupancy, with different batches and materials even in other divisions. This option has been consistently implemented for the entire material flow, from production through distribution to the consignment stock. Preparations have also been made for managing borrowed goods (coils) in conformity with the SAP standard. These procedures can be used in other divisions, too, or if existing customer conditions are altered in the division concerned.

Customized or collective manufacture?

An analysis of the existing business processes by OSCo for the Spunbond operation soon came to the conclusion that neither customized manufacture nor standard processing on the principle of unambiguously described products could be used.

Though procedures had been developed for data takeover, so as to harmonize package description, provision also had to be made for an option incorporating special requirements posed by the customer order execution, both in the production processes and in the choice of shipping method.

A special reporting procedure had to be developed here, to support manual planning and process order handling. By using the firm's dialogs in the variant configuration feature, the downstream processes could be kept almost entirely in SAP standard, without any inflation of basic data.

Further plans

Now that the expeditious introduction in Bobingen has simultaneously been planned and tested under the aspect of other facilities' needs, JM intends to progress the introduction of SAP R/3 step by step at other facilities as well, in conjunction with its partner OSCo. "At the glass fiber and glass fabric plant in Wertheim, we've already started on this, since the beginning of the year. Further European facilities will then follow", says Peter Podraza describing the company's plans.

In future, the pathbreaking SAP technology is likewise scheduled for use in the e-commerce operations, so as to enhance corporate flexibility still further.