Agenda

- About Grace
- Intercompany Process Challenges
- Solution
- Execution Challenges
- Benefits
- Lessons Learned
Global leader in specialty chemicals and materials

- 2012 sales of $3.2 billion
- True specialty chemicals business
  - High value, high margin product portfolio
- Strong franchises in large, global markets
- Global leadership positions
  - Number 1 or 2 in over 70% of 2012 sales

**Catalysts Technologies**
- #1 in FCC catalysts
- #1 in resid hydroprocessing catalysts
- #1 in independent polyethylene catalysts
- #2 in independent polypropylene catalysts

**Materials Technologies**
- #1 in specialty silica gel
- #1 in can sealants

**Construction Products**
- #1 in cement additives
- #2 in concrete admixtures

Operations in over 40 countries
SAP Landscape at Grace

• Grace has global single ERP instance – well over 40 countries on SAP
• First SAP installation was in 1997 (3.0C)
  – Upgrade to 40B (1999)
  – Upgrade to ECC5.0 (2007)
  – NGL added (2008)
  – Upgrade to ECC6.0 in progress
• FI-CO, SD, MM, PP + PM in some locations
• Business Warehouse, Enterprise Portal & GTS used globally
  – GTS (2008)
Inter-Company Process Challenges:

- Process
  - Non-standard Inter-Company Sales process
  - Inconsistent use of Purchase Order and Stock Transfer for Inter-Company processes

- Master Data
  - Inconsistent master data:
    - Lead time – Not maintained/ Correct/ Wrong lead times
    - Location specific material numbers
    - Duplicate material numbers
Project Objectives

Create one global standard process for the processing of intercompany invoices.

- Reduce the number of process steps from 13 to 6 using standard SAP design

Pilot in one business unit to quantify value creation and develop plan to deploy across Grace

- Reduce the number of monthly man hours for completion of manual process steps in Finance, Customer Service, and Plant
- Reduce transactional f/x exposure
- Improved working capital turns by shorter cycle time to invoice (i.e. remove delay between invoicing at shipping point vs from sales office)
- Benefits of increased visibility to FGIT
- Reduce the number of manual intercompany transactions
Process Overview

Cross-Company Sales Order Processing

Cross-Company Sales Order Processing

Customer 100009

Sales Center
Deliv. Plant 1000
Sales org. 1000
Distr. channel 10
Division 10
Company code 1000

Orders

Delivers

Production Plant
Plant 1010
Company code 1010
Sales org. 1010
Distr. channel 10
Division 10
Payer 491000 (for IV representing CCode 1000)

Invoices externally

Payment

Intercompany Billing

Intercompany Payment
Sales Order with Custom(ZIC) Intercompany Drop Ship

Intercompany Sales: Drop Ship From Germany to Customer in Japan - AS-IS

Legend:
- Step in SAP
- Step outside SAP
- Redundant

1. **Customer**
   - Send PO

2. **Singapore Sales Office**
   - Enter Sales Order in SAP
   - Create PO with Worms as Vendor in SAP
   - Print PO and Send to Worms

3. **Worms Order Fulfillment**
   - Collect Printed PO
   - Confirm Material Availability Date based on ATP setting
   - Enter ZIC Sales Order in SAP
   - Allocate Stock & Planned Production to Sales Orders
   - MRP Run Generate STR with MFG Plant
   - Production Schedule (Schedule Line)
   - Download & Modify Allocation Excel File
   - Adjust Production Schedule in PPS

4. **Production Planning**
   - Confirm ZIC Sales Order in SAP
   - MRP Run Generate STR with MFG Plant
   - Production Schedule (Schedule Line)
   - Download & Modify Allocation Excel File
   - Adjust Production Schedule in PPS

5. **Warehouse**
   - Create Delivery to Customer & GI

6. **Communication via Phone & Email on Material Availability**

7. **Customer Invoice**
   - Generate Customer Invoice

8. **Create Delivery to Customer**
Sales Order with ZIC Intercompany Drop Ship

Intercompany Sales: Drop Ship From Worms to Customer in Japan - AS-IS

Customer
- Send PO
  - Customer Invoice

Singapore Sales Office
- Enter Sales Order in SAP
- Create PO with Worms as Vendor in SAP
- Print PO and Send to Worms
- Collect Printed PO

Worms Order Fulfillment
- Confirm Material Availability Date based on ATP setting
- Collect Printed PO
- Enter ZIC Sales Order in SAP
- Allocate Stock & Planned Production to Sales Orders
- Schedule Line
- MRP Run
- Generate STR with MFG Plant
- Generate Customer Invoice with Sales Office
- Generate Customer Invoice

Automated Steps in SAP
- Production Planning
- Production Schedule (Schedule Line)
- Adjust Production Schedule in PPS
- MRP Run
- Generate STR with MFG Plant
- Production Schedule (Schedule Line)
- Production Planning
- Production Schedule in PPS
- Adjust Production Schedule in PPS

Inventory & Order Allocation
- Excel File
- Dummy Delivery & GI to Customer in SAP
- Dummy Delivery & GI to Customer in SAP
- IC Invoice with Sales Office

Warehouse
- Create Delivery to Customer & GI
- Customer Invoice

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SAP Standard Inter-Company Sales Process

SAP Standard Intercompany Sales: Drop Ship From Worms to Customer in Japan

1. **Customer**: Send PO

2. **Singapore Sales Office**: Enter Sales Order in SAP with Worms as Shipping Plant
   - Generate Customer Invoice

3. **Worms Order Fulfillment**: Send PO
   - Production Schedule (Schedule Line)
   - Back Order Processing Update for Confirmation Date & QTY
   - IC Invoice to Sales Office

4. **Automated in SAP**: Confirm Material Availability Date based on ATP setting
   - MRP Run Generate STR with MFG Plant
   - Production Schedule (Schedule Line)
   - Adjust Production Schedule in SAP PP/APO

5. **Production Planning**: Production & Inventory Information
   - Create Delivery to Customer & GI

6. **Warehouse**: Customer Invoice
   - Generate Customer Invoice

Production & Inventory Information
Grace Standardize Plant to Plant Process

TO BE Inter-company Plant transfer

Inter-Company transfer requirement

Create NB Purchase Order (Demand)

GR Purchase Order

Invoice Receipt

AP (Accounts Payable)

STO is visible in Supplying plant as soon as STO is created in Procuring plant. MRP can also be set up to trigger demand and supply

Demand generated from Purchase Order showing in Delivery Due list

Delivery against Purchase Order

Post GI against Delivery

IV (base on DMC+ billing factor) may need to add freight

AR (Accounts receivable)

END

RD04 triggers IDOC
**Grace Standardize Drop Shipped Process**

**TO BE Inter-company Drop ship**

<table>
<thead>
<tr>
<th>Procuring Plant / Customer</th>
<th>Supplier Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter-Company Drop Ship Requirement</td>
<td>Sales Requirement generated from OR sales order</td>
</tr>
<tr>
<td>Create OR sales Order with Supplying Plant as delivery plant</td>
<td>LF Delivery</td>
</tr>
<tr>
<td>CIF Application</td>
<td>CIF Application</td>
</tr>
<tr>
<td>CIF Receipt</td>
<td>CIF Receipt</td>
</tr>
<tr>
<td>CIF Invoice</td>
<td>CIF Invoice</td>
</tr>
<tr>
<td>CIF Cash Application</td>
<td>CIF Cash Application</td>
</tr>
</tbody>
</table>

**Legend**
- OR: Order Received
- LF: Landed Fee
- CIF: Cost Insurance Freight
- IC: Inter-Company
- END: End of Process
## Darex Pilot Plant in -scope

**SHIPPING PLANTS**
7 plant & 6 countries

<table>
<thead>
<tr>
<th>Shipping Countries</th>
<th>Shipping Country Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td>France</td>
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<tr>
<td>DE</td>
<td>Germany</td>
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<td>US</td>
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<tr>
<td>MX</td>
<td>Mexico</td>
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<tr>
<td>TH</td>
<td>Thailand</td>
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</table>

**DESTINATION PLANTS**
26 plants & countries

<table>
<thead>
<tr>
<th>Purchasing Countries</th>
<th>Purchasing Country Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR</td>
<td>Argentina</td>
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<td>AU</td>
<td>Australia</td>
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<td>BR</td>
<td>Brazil</td>
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<td>US</td>
<td>United States</td>
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<td>VE</td>
<td>Venezuela</td>
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<tr>
<td>ZA</td>
<td>South Africa</td>
</tr>
</tbody>
</table>
Solution Inter-company Plant to Plant Transfer

MASTER DATA SET UP

➢ Create Inter-company Customer under shipping plant Sales Area.
➢ Create Inter-company Vendor under Purchasing Organization. Assign shipping plant in the additional data.
➢ Create modify Info records – the GR base IV should be un-check.
➢ Create EDI (RD04) output condition record

CONFIGURATION

➢ Assign Inter-company Customer in Stock transport in shipping data for Plant.
➢ Assign Delivery type and checking rule

EDI SET UP

➢ Maintain Partner profiles Inter-company Customer and vendor (WE20)
➢ Maintain logical address Customer and Vendor (WEL1)
➢ Assign name of Invoice to company code (OBCA)
➢ Maintain conversion of external tax rate to tax code (OBCD)
➢ Maintain EDI Program parameters (OBCE)
Solution Inter-company Drop Ship

**MASTER DATA SET UP**
- Create Inter-company Customer under shipping plant Sales Area.
- Create Inter-company Vendor under Purchasing Sales Organization.
- Create EDI output condition (RD04) record.
- Extend Material master in both Shipping and Purchasing location and maintain Sales Organization tax classification data.
- Modify customer master tax classification and maintain tax condition records.

**CONFIGURATION**
- Define Internal customer number by Sales Organization (OVVA).
- Assign Plant to Sales Organization and Distribution Channel (OVX6).

**EDI SET UP**
- Maintain Partner profiles Inter-company Customer and Vendor (WE20).
- Maintain logical address Customer and Vendor (WEL1).
- Maintain FI – EDI GL accounts (OBCB).
- Maintain FI – EDI GL additional accounts (OBCC).
- Maintain conversion of external tax rate to tax code (OBCD).
- Maintain EDI Program parameters (OBCE).
## Execution Challenges

<table>
<thead>
<tr>
<th>Assumption at Start</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>None to Minimal changes to import/export compliance process because we are already doing import &amp; export and implementing SAP standard process</td>
<td>• Understanding current state was more effort intensive and required more time than planned</td>
</tr>
<tr>
<td></td>
<td>• Integration with GTS (Global Trade Services) resulting in additional work for German Custom declaration Atlas as current system was not setup for STO (Stock Transfer Process)</td>
</tr>
<tr>
<td></td>
<td>• Tax set up between origin and destination countries has been much more complicated and was discovered during the test phase</td>
</tr>
<tr>
<td></td>
<td>• Argentina NOTA fiscal not working for STO</td>
</tr>
<tr>
<td></td>
<td>• Transfer pricing/billing factor and accounting of freight not clearly defined</td>
</tr>
</tbody>
</table>
## Execution Challenges

<table>
<thead>
<tr>
<th>Assumption at Start</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard SAP process and limited number of SAP users affected by inter-company process so only one week of onsite presence at each site</td>
<td>Larger number of users affected, language challenges, and complexity requiring double the onsite presence</td>
</tr>
<tr>
<td>Changes to output documents (Invoice) and reports will be outside of scope</td>
<td>Complexity &amp; hard-coding in our current SAP system created need to modify invoice documents, transfer price adjustment BW report and Planning report to make it work</td>
</tr>
<tr>
<td>Availability of key resources</td>
<td>Resource changeover and ramp up of new resources</td>
</tr>
</tbody>
</table>
Intercompany Standardization Benefits

- Simplified and standardize intercompany process leading to better visibility & productivity by:
  - Elimination of multiple redundant steps—from 13 steps to 6 steps and reduction of the number of documents being manually generated from 3 to 1
  - Eliminated the need to perform “dummy” transactions, such as PGR’s and PGI’s into the system to virtually transfer stock into inventory so it can be reissued to the customer for drop shipments
  - Production reports have been standardized, no longer using multiple home grown reports to manage production within SAP
  - Improved sales order status visibility eliminating month end spikes, because the order was immediately placed when the PO is placed
- Non-standard orders reduced by 70% between implementation and end of June
- Expected reduction in order entry time for intercompany orders of 50%
- Fewer touch points within process – No longer entering a PO and a sales order therefore in the STO process the CSR does not need to be involved in the process.
Lessons Learned

- Allocate time upfront for mapping current state of process to really understand the complexities such as the interactions between different functions (accounting, tax, logistics, compliance etc) and country specific requirements to be able to define scope, cost estimate, duration accurately.

- Ensuring the correct people are involved & committed in the process from beginning to end to design process base on business needs, avoid missing business requirements and execute project on a timely manner and within the target cost.

- Allocate necessary time for all project phases. It will help us prevent missing and addressing issues and processes in the design phase not in the testing phase.

- More communication:
  - Important to set expectation during project initiation. Message maybe well received if it comes from the management.
  - More communication & education on the scope of various projects under order fulfillment to stakeholders.
Questions?