JOURNEY TO BECOMING DEMAND DRIVEN
MAY 2016
• a.b.e.® Introduction
• Overview of our Planning Journey pre-DDMRP
• Implementation Approach
• System Walkthrough and Key Findings
• Results to Date
• Questions and Answers
• **a.b.e.®** has been in existence for over 80 years

• **a.b.e.®** is synonymous with waterproofing, but offers products from foundations to roof - for both new and maintenance projects

• **a.b.e.®** was listed on the South African stock exchange prior to the Chryso Group Southern Africa purchasing **a.b.e.®** in September of 2010

• Chryso is a French based company with a global footprint in over 70 countries worldwide
a.b.e® Construction Chemicals (Pty) Ltd
Is a Chryso Group Company

a.b.e PRODUCT RANGE

1. Waterproofing
2. Flooring
3. Specialised Adhesives
4. Structural Glazing
5. Concrete Repair
6. Silicone and Sealants
7. Construction Commodity Products
8. Polyurea Coatings

• 2,300+ Finished Goods
• 600+ Raw Materials
• Resulting in approximately 17,500 SKU’s
a.b.e MARKET SEGMENTS

• Construction Sales:
  – Large construction companies to the small house builder / renovator

• Retail Sales:
  – Hardware and building supply outlets ranging from the large groups with a national footprint (e.g. Walmart), to the small independent hardware store

• Exports:
  – Distributors, local export houses and established customer base in sub-Saharan Africa
Supply Points:
1) Two Manufacturing Facilities:
   • Liquid Plant (KZN)
   • Powder Plant (Gauteng)
2) Imports:
   • 30+ International Suppliers:
     • Finished Goods
     • Raw Materials
3) Buy-Outs:
   • Local Contract / Toll Manufacturers

Sales Locations:
1. Johannesburg (Boksburg)
2. Durban
3. Cape Town
4. Bloemfontein
5. East London
6. Port Elizabeth
7. George
8. Exports
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a.b.e PLANNING JOURNEY

After inheriting rudimentary excel stock models and manual order sheets in 2010 we remodelled the planning framework and implemented the following systems and process:

- Reformulated planning methodology around the Tom Wallace S&OP Methodology
- Invested in Forecasting software
  - Forecast Pro Collaborator
- Appointed a full time Demand Planner
The gap between forecast and reality:
  - Forecast accuracy of 50-80% was just not good enough operationally, resulting in the daily bull whip

Multiple numbers in the business:
  - Forecast vs. IBT Requests vs. Production plan vs. Financial Budget

Stock deployment was very difficult to integrate into day to day life:
  - Out of stock Regionally but we had sufficient Stock-on-hand Nationally – Resulting in expensive back shipping or producing additional stock

Disconnect between demand in the market and the production floor:
  - Production was forecast driven but was constantly interrupted by large unplanned sales orders

We regularly converted valuable raw materials into stock that was not selling

Business was siloed at an operational level despite running an integrated planning process
• We struggled with holding too much of the wrong inventory and too little of the right inventory
• Integrated S&OP process had a positive impact on a.b.e.® but it was not directly connected to a customer across the supply chain – leading us to make what we forecasted and not necessarily what is selling
• Current infrastructure, legacy systems and old supply chain strategies would limit our flexibility and responsiveness in a volatile market environment
The introduction of an end-to-end production, procurement and distribution planning and inventory management system aligned to the same metrics and measures...

- The system must incorporate:
  - Branches
  - DC’s
  - Production
  - Procurement

- The system must enable the whole internal supply chain to speak the same inventory language

- Every product must be replenished based on actual demand... Proactively

- The system must be flexible, scalable and have a short implementation time

- Only one solution ticked all these boxes and more: DDMRP

Source: Demand Driven Institute
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IMPLEMENTATION APPROACH

• Formal DDMRP Training
• System & Vendor selection (Production-Scheduling.com)

![Production-Scheduling.com](attachment:image)

• Write system specification and requirements, integrating:
  • Manufacturing System
  • ERP system (Sage 300)
  • Forecasting System (Forecast Pro - Hybrid ADU)
• Head office Pilot (4 Main “A line” Items manufactured locally & one range from a local supplier)
• Pilot in mature branch and DC Environment
• Production and procurement
• National rollout & Setup of formal project team
IMPLEMENTATION APPROACH: PROJECT FLOW

PROJECT FLOW: STEERING COMMITTEE

Project Manager & System Champion (SM)

Project Owner (BL)

Supply Side Champion (MM)

Demand Side Champion (ADB / HDB / PD)

Procurement Champion (SB)

Master Data Champion (PD/SP)

Production Champion (WM)

Finance Representative (PN/RS)

Implementation Champion (SM)

System Developer (TR)

Project FLOW

Project Role & Responsibilities

Name: Sandra Brits

Job Title: Procurement Manager

Project Role: Supply Side Champion - Procurement focus

Project FLOW Reporting Manager: Mario Maritz

Project Responsibilities

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Timeline</th>
</tr>
</thead>
</table>
| 1. PO Management | - Ensuring that POs are placed on time  
- If PO's are either too high, too low or not being suggested at all and you feel they should be, these need to be highlighted to the project Manager and your project Lead  
- This includes management of both ConpoChem and Accept POs | Ongoing |
| 2. PO Report Generation | - The testing of current PO reports  
- Highlighting if reports are accurate and trustworthy  
- Highlight any discrepancies found  
- Make suggestions to improve reports  
- Drive the development of new reports that will enable procurement department to perform their job more efficiently | End Feb '16  
- Ongoing  
- Ongoing  
- End March '16  
- Ongoing |
| 3. Lead time management (PO & Supplier) | - Review system lead times and work with master data champions to update lead times  
- Review PO's that are overuse and learn from the situation  
- Manage Supplier lead times | End Feb '16  
- Ongoing |
| 4. Master Data | - Ensuring that all master data relating to procurement within DDMRP is maintained within the appropriate systems to enable DDMRP to make the best possible suggestions. This includes but not exclusive to:  
  o Supplier & Shipping lead times  
  o MTS & MTO info  
  o Minimum and multiple order quantities  
  o ETA Date management | End Feb '16 and ongoing |
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DDMRP OVERVIEW: a.b.e. DDMRP SYSTEM DEPLOYMENT
SYSTEM WALKTHROUGH: BRANCH & CUSTOMER

Select Product >> SUPER LAYKOLD SL
Select Raw >> (All)

Horizon Days: 420

Graph Line Colour
- On Hand Position: The Physical stock on hand in the facility

Item Code: 00201038

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GAU DC

KZN DC

Cape Town

Boksburg

Durban

East London

Port Elizabeth
SYSTEM WALKTHROUGH: BRANCH & CUSTOMER

- Ability to see high demand spikes across the network and respond timeously

Graphs showing demand spikes in East London and KZN DC.
• Ability to see high demand spikes across the network and respond timeously
## SYSTEM WALKTHROUGH: BRANCH & DC

### BRANCH

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<th>Sales Orders Due</th>
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<td>-1,262</td>
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<td>6</td>
<td>150</td>
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• Production prioritisation

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<th>DC Description</th>
<th>BRANCH</th>
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<tr>
<td>abe Hydroproof - Red 5Lts</td>
<td>KZN 93%</td>
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<tr>
<td>abe Hydroproof - White 5Lts</td>
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<td>abe Hydroproof - Grey 5Lts</td>
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<td>abe Hydroproof - Charcoal 5Lts</td>
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<tr>
<td>abe Hydroproof - Green 5Lts</td>
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<td>abe Hydroproof - Burgundy 5Lts</td>
<td>77%</td>
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<td>abe Hydroproof - Terra Cotta 5Lts</td>
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**SYSTEM WALKTHROUGH: PRODUCTION**

- Proportioning batches across multiple finished goods pack sizes

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<th>Description</th>
<th>Bulk Code</th>
<th>Item Code Prod</th>
<th>Description Product</th>
<th>Required Qty</th>
<th>Rounded Qty</th>
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<td>KZN34501005</td>
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<td>205</td>
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### SYSTEM WALKTHROUGH: PRODUCTION & PROCUREMENT

**Diagram:**
- Supplier → Raw & Pack → Manufacturing → National DC → Regional Warehouses → Customers

### PROCUREMENT

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Item Code</th>
<th>Available Stock</th>
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<th>ADU</th>
<th>Stock Out Date</th>
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</tbody>
</table>

**Details:**
- **Available Stock**: Stock available for purchase.
- **On Hand**: Stock on hand.
- **ADU**: Average Demand Unit.
- **Stock Out Date**: Date when stock will be out.

**Notes:**
- **PONo**: Purchase Order Number.
- **Min of Due**: Minimum due date for purchase.
- **PD Qty**: Quantity of the product.
### SYSTEM WALKTHROUGH: PROCUREMENT & SUPPLIERS

- Import ETA Tracking and visibility of FLOW

<table>
<thead>
<tr>
<th>Description</th>
<th>Location</th>
<th>Values</th>
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</thead>
<tbody>
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<td>INDEX UNIGUM 4 KGS MS (GREY)</td>
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<td>PO Due Date</td>
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<tr>
<td><strong>INDEX VIS/P 3MM 10M X 1M ROLL</strong></td>
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<td>PO Due Date</td>
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<td><strong>INDEX VIS/P 4MM 10M X 1M ROLL</strong></td>
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<td>Location</td>
<td>PO Due Date</td>
</tr>
<tr>
<td></td>
<td>Location</td>
<td>PO Number</td>
</tr>
</tbody>
</table>
• SRM and concepts like vendor managed inventory are possible:
  – Suppliers could get DDMRP zone views and positions instead of inaccurate forecasts
  – Backward integrating across our network to show stock on hand and available stock positions
  – Lastly the ability to develop suggested stock holing to protect abe® – which adjusts through seasonality
SYSTEM WALKTHROUGH : PROCUREMENT & SUPPLIERS

ABE WP TAPE 2,5M X 75MM

Select Product

Supplier X
Decoupled buffers: DC Out of Stock delayed by 4 weeks before impacting a customer
DDMRP: KEY FINDINGS

- DDMRP by default will FIFO stock within a branch
- Smaller more frequent replenishments are improving cash flow considerably
- Many products have seen a 200-300% improvement in annual stock turns already – with some seeing 45-52 turns a year, driving significant cash velocity

ABE WP TAPE 2.5M X 50MM

abe Hydroproof - Charcoal 5Lts
DDMRP: KEY FINDINGS

- FEFO and FIFO is ensuring far fresher stock for retail and reduces risk of older product failures
DDMRP: KEY FINDINGS

• DDMRP makes FEFO possible
MOQ Effect was not well understood, after assessing Green zones with and without MOQ’s we found that our rules were radically impacting stock holding (7%-55%)
• Early adopters and laggards are to be expected
DDMRP: KEY FINDINGS

- Ability to concentrate and integrate with sales and marketing allowing for constructive market intelligence
DDMRP: KEY FINDINGS

• Change management across the SC should not be underestimated and DDMRP
• Project champion has to be a strong leader and well trained
• Buy in from CEO and Executive Committee is vital given impact
• Must be incorporated into all individuals performance assessments / remuneration packages
• Starting with branches had unforeseen benefits as the demand on the factory came in line with DDMRP production requirements
• Fast Excel development methodology has been an excellent platform to truly learn about the system and methodology as you understand your internal SC business requirements
DDMRP: KEY FINDINGS

- DDMRP is helping branches, DC’s and production to expose redundant stock and overstocking
  - Production had very little ability in the past to see if a raw material was at risk of expiry – now it’s fully integrated
- Disruption and breaking into the production plan has significantly reduced due to decoupled DDMRP buffers and replenishment logic
- Zones are being responsive to sales demand, seasonality is driven through hybrid ADU:
DDMRP: KEY FINDINGS

- Replenishment logic and stock deployment
  - Looking at frequency and volumes (FG and Raw Materials)
  - Scientifically expedite and defer shipments
- Capex & Opex spend:
  - Manufacturing & Logistics infrastructure will need to be reviewed
- Roles and responsibilities within Supply Chain
- The need to concentrate on MTO & MTS is critical and the strategic inventory positioning was underestimated at the beginning
- When the buffer breaks due to a heavy sales order, it very rarely breaks the upstream DC buffer
AGENDA

• a.b.e.® Introduction
• Overview of our Planning Journey pre-DDMRP
• Implementation Approach
• System Walkthrough and Key Findings
• Results to Date
• Questions and Answers
Over 700 SKU’s have moved from over stock to adequately stocked
Over 150 products have moved from out of stock to stocked / supplied
• Sample branch: Reduction in Blue by 35%, Improvement in Green by 51%, Reduction in Red & Dark Red by 2%
DDMRP: RESULTS TO DATE

Back Orders (excl MTO) as % of Sales Vs FG Inventory Levels

- Back Orders as % of Sales
- FG Inventory (Tons)

Data points show the fluctuation of back orders as a percentage of sales compared to the FG inventory levels from January 31, 2013, to March 31, 2016.
DDMRP: RESULTS TO DATE

Finished Goods Inventory Value

- Value (R)
  - 2013/06/30: R 1,288
  - 2013/07/31: R 1,717
  - 2014/08/31: R 1,318
  - 2015/09/30: R 505
  - 2016/10/31: R 297
  - 2017/11/30: R 169

- Thousands
  - 0
  - 200
  - 400
  - 600
  - 800
  - 1,000
  - 1,200
  - 1,400
  - 1,600
  - 1,800
  - 2,000

- Time Period:
  - 2013/06/30 to 2016/11/30

a.b.e.® Construction Chemicals (Pty) Ltd

Is a Chryso Group Company
QUESTIONS & ANSWERS?

Should you wish to chat further:

Email: Steven.7.Montgomery@gmail.com
Linkedin: https://www.linkedin.com/in/steven7montgomery