ICON-SCM
Supply Chain Management

We enable Demand-Driven Supply Networks

Supply Collaboration

Dr. Kurt Mannchen, Sebastian Seidel ICON

Odette Sweden, FKG / Odette Seminar
Jönköping – November 23, 2005
Agenda

1. Company Presentation and Solution Overview
2. Supply Collaboration Solutions
3. BMW - Demand Capacity Planning
4. Renault - Proof of Concept Odette DCP
5. Siemens VDO - Supply Chain Collaboration
6. Lessons Learned
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ICON provides supply chain solutions to leading Fortune 500 high-tech electronics and automotive manufacturers.

High-Tech/Electronics
- ICON understands planning and outsourced manufacturing from an Original Equipment Manufacturer (OEM) and Contract Manufacturer (CM) perspective

Automotive
- Collaborative solutions to align supply and demand
- ICON understands logistics and ramp-up management from an OEM and supplier perspective
“ICON has proven to be a very effective tool-set in supporting the requirements of our PC manufacturing facilities. ICON's solutions are comparably quick to implement and work well in even the most challenging of situations. The ICON implementation team continually proves its competence and expertise in solving technical and business issues.”

Vincent Melvin,
CIO, Sanmina-SCI

”... if someone is looking for a competitive advantage given by his supply chain tools, I would strongly suggest checking out ICON. Because ICON has an advantage versus the others: it works.”

Claude Boivin,
Supply Chain Manager, Hewlett-Packard

"DaimlerChrysler reduces logistics costs up to 20% by using ICON-SCC."

Dr. Hartmut Graf
Head of Logistics & Supply, DaimlerChrysler Sindelfingen
The ICON solutions interoperate seamlessly with complementary products and services. Our cooperation with accomplished partners is a key reason for this. We partner with leading companies in strategic consulting, development, implementation and on-going support in operational business.

- **Consulting Partners**
  Industry experts in implementations and services such as strategic consulting, process design etc.

- **Technology Partners**
  Leading technology providers whose products and services complement our SCM suite
<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDI</td>
<td>Member in the department „Supply Chain Management“ (A7) in VDI-FML (Fördertechnik Materialfluss und Logistik)</td>
</tr>
<tr>
<td>ODETTÉ</td>
<td>Member in project teams Supply Chain Monitoring (SCMo), Vendor Managed Inventory (VMI) and Demand Capacity Planning (DCP)</td>
</tr>
<tr>
<td>GALIA</td>
<td>Member since September 2002</td>
</tr>
<tr>
<td>ITA VDA</td>
<td>Design and realization of a pilot project: Interoperability in Logistical Networks (SCMo, VMI, DCP)</td>
</tr>
<tr>
<td>Universität Karlsruhe (TH)</td>
<td>Research cooperation with Institute for Conveying Technology and Logistics (Institut für Fördertechnik und Logistiksysteme)</td>
</tr>
<tr>
<td>ProdChain</td>
<td>EU research project ProdChain: Development of a decision support technique to analyze and improve the performance of globally acting production and logistics networks</td>
</tr>
</tbody>
</table>
DDSN is THE Pre-condition for Ultimate Supply Chain Efficiency

- Collaboration on materials supply and capacity availability
- Execution of supply orders
- Quickly simulations of what-if impact on demand

- Integrated production, transportation and procurement planning
- Rapid and reliable customer acknowledgement calculation
- Fast what-if calculation and scenario analysis

- Collaboration on sales demand plan
- Matching of constrained supply to demand
- Execution of customer orders
- Quick simulations of what-if impact on supply
Supply Chain Solutions

Strategy

Supply Chain Strategic Design and Restructuring

- Objectives
- Management-by-Exception

Monitoring

Visibility
Monitoring and Metrics/KPI

Collaborative Planning & Execution

- Collaborative Demand Forecasting & Planning
- Supply Collaboration (SCMo, VMI/SMI, DCP)
- Demand & Supply Planning & Matching
- Supply Chain Execution

Supply Chain Systems Base

- Advanced Planning Engine, Database, and Portal
- Secure Communication and Authorization

Transactional Systems (ERP)

- Client
- Customers
- Distribution Partners
- Suppliers

ICON Supply Chain Solutions

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Objectives

Management-by-Exception

Monitoring

Visibility
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Collaborative Demand Forecasting & Planning

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Advanced Planning Engine, Database, and Portal
Secure Communication and Authorization

B2B Integration

Transaction Systems (ERP)

Client

Customers

Distribution Partners

Suppliers

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Collaborate with all agents of your supply chain to provide the basis for a responsive network

**Features**
- Collaboration between manufacturers, suppliers and customers through web-based information platform as extension to ERP system
- Real-time visibility and proactive management of potential shortages
- Different modules: Supply Chain Monitoring, Demand Capacity Planning and Vendor/Supplier Managed Inventory

**Benefits**
- Increase customer service level through perfect order fulfillment
- Prevent bottleneck situations and optimize capacity and materials utilization
- Minimize inventory
Supply Chain Monitoring

Call-offs, VMI, Kanban + short term capacity alignments

Fulfillment

DCP medium term
- e.g. 1 to 12 months

DCP long term
- e.g. 1 – 3 years

Users
- operations (logistics/production)
- production planning
- sales / purchasing, project mgmt.

Examples of measures
- overtime, premium freight, banking
- additional shifts, small investments, large banking
- major investments (tooling, machines, etc.)

Source: Odette DCP Recommendation
Visualization of inventory / capacities and alignment with demand in terms of a glass pipeline across the whole supply network (permanent or situational in critical supply chains).

**Goals:**
- Stable and secure supply in spite of minimized inventory
- Pro-active management of bottleneck situations (early warning system, emergency tool)
- Avoidance of Bullwhip Effect (uncontrolled built up of demand)
- Optimized allocation of inventory in bottleneck situations

**Benefits:**
- Increased availability in critical supply chains
- Increased flexibility and synchronization in the supply chain
- Reduction of non value-adding activities (Exception Management)
- Reduction of extra costs like extra transports and shifts
- Reduction of scrapping during ramp-up and production changes
Vendor Managed Inventory (VMI) is a bilateral process that manages delivery at the customer site and therefore production at the supplier site. VMI is often but not necessarily combined with the consignment principle.

Goals:
- Transfer of disposition responsibility to the supplier
- Transparency over inventory and planned customer demand in real-time
- Additional support for optimized production at the supplier
- Early warning in case of exceptions – alerts and workflow

Benefits:
- Reduction of non value-adding activities and administration effort for customer and supplier
- Considerable improved supply situation even at critical suppliers
- Reduced inventory and transportation costs
- Reduced production costs (set-up costs, over-hours, extra shifts)
Early identification of serious discrepancies between capacity supply and demand beyond the horizon that is covered by existing production planning systems.

Goals:
- Avoidance of capacity shortages and under-utilization in a middle- to long-term planning horizon
- Transformation of the capacity planning process towards an integrated process covering various companies/sites (pro-active and structured)
- Transparency over long-term demand consolidated for all relevant parts (multi customer scenario)

Benefits:
- Reduction of profit cuts because of capacity shortages
- Reduction of extra costs because of capacity shortages (over-hours, extra shifts)
- Reduction of unplanned ad-hoc activities (proactive emergency avoidance)
- Objective data for middle- to long-term investment planning
### Supply Chain Collaboration: Examples of Realised Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Participants: Level(s)</th>
<th>Number of Plants/Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCMo - Seats and Door Inserts E-class (W211)</strong></td>
<td>1st to 6th level</td>
<td>11 plants (Europe, Africa)</td>
</tr>
<tr>
<td><strong>Supply Chain Performance Management</strong></td>
<td>5 HP plants / 15 Logistic Service Provider (HP worldwide)</td>
<td></td>
</tr>
<tr>
<td><strong>Demand Capacity Planning Ramp-up BMW series 1 and 3</strong></td>
<td>1st to 3rd level</td>
<td>80 plants (Europe, Africa)</td>
</tr>
<tr>
<td><strong>SCMo – Multi-OEM-Connectors: DC (E, S); BMW (5, 7, Z4); Audi (A6, A8)</strong></td>
<td>1st to 5th level</td>
<td>31 plants (Europe, North America, Asia)</td>
</tr>
<tr>
<td><strong>SCMo – Ramp-Up Audi A6 Cockpit</strong></td>
<td>1st to 5th level</td>
<td>17 plants (Europe)</td>
</tr>
<tr>
<td><strong>SCMo - Porsche Cayenne Interior</strong> (center console and cockpit)</td>
<td>1st to 4th level</td>
<td>6 plants (Europe)</td>
</tr>
<tr>
<td><strong>Demand Capacity Planning – Proof of Concept of the Odette Recommendation</strong></td>
<td>1st level</td>
<td>10 plants (Europe)</td>
</tr>
<tr>
<td><strong>Vendor Managed Inventory / SCMo / DCP – Diesel Systems</strong></td>
<td>1st to 3rd level</td>
<td>14 plants (Europe)</td>
</tr>
</tbody>
</table>
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Ramp-up of BMW 1 and BMW 3 series

- Up to 80 suppliers integrated
- Over 1,000 parts monitored
Display if capacity is:
- critical (red)
- "endangered" (yellow)
- sufficient (green)

Number and link of/to the parts that are produced on that capacity.
In case of a new alert creation users assigned to different escalation levels will be informed by E-Mails following a pre-defined and automated time phased escalation scheme.

In the „Alert Management Board“ alerts are resolved following a predefined workflow providing transparency to all relevant persons.
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The business case based on the middle term horizon (from M+4 to Y+1) on the projects:

- On the MEGANE project which is a great commercial success and on the maximum of several capacities,
- On the MODUS project which is in ramp up phase

Prevent the inadequate capacities to the needs by sites on the middle term:

- For critical items (new equipments, mix variation…)
- For internal or external capacities
- For multi sites and multi models capacities.
### DCP Dashboard

**Last Database Update:** 2004-08-16 15:38:38  
**Last Client Update:** 2004-08-31 10:15:31  
**Version:** 4.5.7

#### General
- **View:**
  - Management
  - Demand Type
  - GLOBAL

#### Attributes
- **DPOC:**
  - 000
  - 023
  - 024
  - 029

#### Selected Attributes:

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Supplier Status</th>
<th>Capacity Status</th>
<th>Parts Capacity Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>RENAULT CENTRAL (000)</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>RENAULT VALLADOLID (023)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>RENAULT OYAK (029)</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>RENAULT DOUAI (039)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>RENAULT PALENCIA (024)</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Start collaboration by proposing capacity increasing actions to your customer.

Critical Situation – Insufficient capacity

-> need for collaborative capacity increase
Chose from a catalog of predefined measures...

Or create new measure to lower/increase your capacities
- Chose predefined measures
- Simulate the effects of those measures
- Approve measures
Every company must have full control of what information will be made transparent with which collaboration partner.
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Supply Chain Collaboration Siemens VDO Diesel Systems

- 4 OEM’s and 12 suppliers integrated
- Over 250 parts monitored
Supply Chain Model

Supply Chain Monitoring and Synchronization

Supply Chain Monitoring
Capacity Monitoring Example
Vendor Managed Inventory Example
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Collaborative Processes require

- Openness to share information
- Partnership

Acceptance requires Business Case with clear Win / Win situation

Technical Feasibility is not the problem

Changes in Business Processes are a prerequisite for success

Benefits

- Increased Flexibility
- Lower Costs
- Increased Transparency

“[The ICON solutions Monitoring and Vendor Managed Inventory] assist us in our way towards more flexibility and responsivity. […] Therefore we are perfectly prepared to master complex logistic challenges.”
Helmut Heuschneider, Director Logistics, Siemens VDO Diesel Systems
ICON Supply Chain Management

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