Production-IT Strategy at Arla Foods

SESAM conference 104. 3. Sep 2013 at Hi[13]

Arne Svendsen, Arla Foods.
Contents

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• Process: Developing the Strategy
• Production-IT Strategy House
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• Conclusions
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Presentation of Arla Foods
ONE pager – key figures

- Cooperative Dairy Foods Business with global sales and production.
- We are owned by the farmers
- 18,000+ Employees
- Revenue approx. 10 B. Euro
- 65 Production sites, predominantly in DK, SE, UK, DE, NL (core countries), but also Poland, Saudi-Arabia, Argentina, China, Russia, US/CDA.
- We produce all categories of Dairy Products
- Every year 10,000,000,000+ liters of milk "flow" from our 12,000 farmers through our supply chain to an unknown number of consumers 😊 We are a 24x7 company.
- Arla Foods Strategy 2017:

Arla's mission

To secure the highest value for our farmers' milk while creating opportunities for their growth
The three focus areas in Strategy 2017

1. Develop the core business and the three global brands

2. Growth in markets outside the EU

3. More effective throughout the entire value chain
Presentation of Arla Foods
ONE pager – ORGANISATION

CEO + Enterprise Mgmt. Group (EMG)
+ Functional Boards, e.g. SC board, FI board

Buss. Groups
Consumer DK (CDK)
CUK, CSE, CFI, CGN

Buss. Group
Global Category Operations (GCO)

Buss. Groups
Cons. International (CIN)
Arla Foods Ingredients

GLOBAL BUSINESS SERVICES
HR, PROCUREMENT
IT
FINANCE, ...

Corporate Center – IT (CCIT)

Global Business Services – IT (GBSIT)
MANUFACTURING
SERVICES & AUTOMATION

INTEGRATORS & Automation supp.
WW, Siemens, Rockwell

NNIT, IBM, TCS, ...
SAP, & Microsoft
Scope of Production-IT in Arla Foods:

Supply Chain Processes:

- Forecasting, Planning & Scheduling
- Farmers
- Milk Allocation & Collection
- Production Management
- Innovation Management
- Quality Management
- Energy Management
- Plant Maintenance
- Performance Management
- Warehousing
- Distribution

Production IT:
- Production Data Cockpit
  - Process Orders
  - SPC/ APC
  - Data coll. & Labelling
  - Data collection
  - Data coll. & Labelling
  - OEE solution
  - Warehouse Execution

Utility systems (energy, air, water, cleaning):
- Automation
- Instrument
- Instrument ON/Atline
- All systems ..
- Automation
- Automation
- Robots & AGVs.
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• **Process: Developing the Strategy**
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Timing of Strategy Process

- 2004-2011 Production-IT, Technology oriented
- Nov. ’11 – Supply Chain Board requests clear strategy
- It is time for standardisation across Arla Foods
- Strategy process Jan ’12 – Oct ’12: Version 1 approved
- Automation part added June ’13: Version 2 approved
- Development process:
  - Many workshops with business to get the customers perspective. (Get away from technology view)
  - Ensure real ownership of strategy in Supply Chain – at BOARD level!
Outside-IN: Who did we ask?

- Specialty Cheese Site directors
- Global Procurement
- IT – Infrastructure Services (IS)
- IT technicians on dairies (DK & SE)
- Göteborg + Linköping workshops (Mgmt. + Tech. from all SE sites)
- PLC technicians on dairies (DK & SE)
- Large group of PTD managers
- Arla UK Central Engineering
- Business Group Management, selected repr.
- GBSIT – Our own team
- Danish Crown
- Carlsberg
- Grundfos
- Müller (Dairy, DE)
- Fonterra (Dairy, NZ)
- General Mills (Food, US)
- Danfoss
Overview of inputs from Business

- Sites ready to use IT standards and want to follow
- "No extra investment costs" (TCO not so much in focus?)
- Reliable solutions and faster projects, shorter commissioning times
- "Full life cycle" Support needed:
  - To agree and sign contract with supplier
  - During Project implementation
  - 24x7 support agreements must be available
  - Help with – "which competences should we have onsite”
  - Clearer governance: Who is responsible for what ?
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Production IT Strategy 2017

Strategic ambition

Ensure optimal utilisation of Production IT in Supply Chain

1. CAPEX project Services
   - Master Plans
   - CAPEX project support
   - Production IT project managers pool

2. 24x7 Solution Care
   - IT-Surveys
   - Proactive Solution maintenance
   - 24x7 Application Support
   - Shared Services

3. Improvement Services
   - OPEX/LEAN support
   - SPC/APC
   - LRM
   - Energy Management

4. ONE Production Solution

5. ONE Automation Solution

6. ONE Delivery model

7. ONE Funding Model

Our Character (LEAD, SENSE, CREATE)
Motivation for Strategy 2017

SUPPORT STATEMENT From Prod-IT Steering Group (3 Supply Chain Board members)

- Production IT is a large part of our CAPEX activities, and we need to Focus our resources across Business Groups and Plants to get value for money
- The technology develop so fast and solutions are so broad, that only a focused Strategy can keep our costs down
- A clear Strategy will set us in the Drivers seat and not our Suppliers
- Supporting a diverse landscape of Production IT Solutions is the most expensive way to go
- Uncontrolled decentralized creativity will RESULT in a much too complex landscape of different applications - resulting in forced updates (CAPEX) and higher operational costs and risks
- Business needs for transparency and integration can only be achieved by harmonizing our solutions
How do we support the Arla Supply Chain in CAPEX Project Execution?

- **CAPEX Project Services:**
  - Offering support to get the IT-part of the contract in place
  - Support to choice of suppliers, from Arla list.
  - Support to assuring local Project Manager competences

- **Solution-QA:**
  - QA of the suppliers delivery – at design-time and at hand-over time!
  (Both ”gates” are important to get a supportable standard solution)

Support to ”IT appendix” in Contract

Solution-QA: Checking quality of IT delivery

- **Initiation**
- **Pre-analysis**
- **Contract**
- **Analysis**
- **Selection**
- **Design**
- **Accept**
- **Implementation**
- **Handover**
- **Evaluation**
- **Closure**
### Best Practice Replication - ONE Production Solution
(Arla’s global MES modular solution)

<table>
<thead>
<tr>
<th>Production Reporting &amp; DWH</th>
<th>Manufacturing Integration and Intelligence (SAP MII)</th>
<th>Energy Data Collection</th>
<th>Warehouse Control System</th>
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<tbody>
<tr>
<td>Line Management System</td>
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<td>Recept Management System</td>
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<td>Efficiency Management System</td>
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<th>Manufacturing Execution System</th>
<th>Human Machine Interface System</th>
<th>Database</th>
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<td>Invensys Wonderware Archestra platform</td>
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- **Production Reporting & DWH**
  - Line Management System
  - Recept Management System
  - Efficiency Management System

- **Manufacturing Execution System**

- **Human Machine Interface System**

- **Database**

**Key Elements**
- **Site A**
  - PLC Process Interface
  - Machine Interface (PackML)
  - Printer Interface
  - Scanner Interface
  - Weight Interface
  - Instrument Interface

**Notes**
- Arla standard software application. Application owner and responsible for consulting and implementation.
- Standard software platform. Product owner and responsible for consulting and implementation.
- Non standards. Only Product Owner – In future development according to a product roadmap.
- Arla standardisation in progress. Only Product Owner – In future development according to a product roadmap.
Best Practice Replication
- ONE Automation Solution
(Arla’s global PLC modular solution)

Process Area

HMI SCADA
PLC Process interface
PLC

WW Intouch Siemens, Rockwell

Packaging, Filling & Warehouse Area

HMI SCADA
Line Master PLC
Machine interface (PackML)

PLC Standard Machine
PLC Standard Machine
PLC Standard Machine

Arla standard software application. Application owner and responsible for consulting and implementation.

Standard software platform. Product owner and responsible for consulting and implementation.

Non standards. Only Product Owner – In future development according to a product roadmap.
24x7 Solution Care!

- We are ready to take 24x7 responsibility, both proactive monitoring and 2.level support behind the helpdesk.
- IT-assessments of production sites with 2 view angles:
  - **Continuity:** Do we have support on all critical systems?
  - **IT Security:** Are antivirus, patching, firewalls installed and up to date?
- **Proactive Maintenance:** Automatic monitoring / health check of servers, interfaces, MES-applications, equipment
- **24x7 – 2.level remote support** on ALL solutions, built on Arla IT standards
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Executing the Strategy: Governance – High Level

Arla IT-strategy
- EMG Mandates
- FIB
- SCB

PIT-strategy

Arla Supply Chain CAPEX process

BG Buss.Plan

IT Strategy execution
BTs IT Road map

BG CAPEX

Strategy Process
- Site IT master plans
- Site Plans
- BG CAPEX support

GBSIT/MSA

Suppliers

Process: CAPEX support + Solution-QA / HOTO-> 24x7

"One Investment project on site"

1. Exploration
2. Pre-analysis
3. Analysis
4. Design
5. Accept
6. Implementation
7. Handover
8. Evaluation

1. Initiation
2. Pre-
3. Analysis
4. Design
5. Accept
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Process: CAPEX support + Solution-QA / HOTO-> 24x7

1. Site Buss. + IT master plans
2. Site Buss. + IT master plans
3. Site IT master plans
4. BG CAPEX support
5. BTs IT Road map

1. Strategy Process "One Investment project on site"

1. Site Plans
2. BG CAPEX support

Vendor mgmt.
Procurement
Guiding coalition:

- An efficient Steering Group of 3 SC Board members has been implemented.

Customer relations:

- Every Business Group has a person appointed in our team to support implementing the Production-IT strategy
- Business Groups inherit the global strategy and create own communication flows and road maps accordingly
- Continuous newsletters to Arla Business.

Supplier relations:

- Supplier relations now formalised by new team (”Supplier and Solution QA”)

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Executing the Strategy:
The COMMUNICATION challenge!

- To be kept informed on our Global Strategy:
  - 7 Business Groups at BG-mgmt, Site-mgmt and technical level (Approx. 70 x 10 persons)
  - Arla-IT colleagues (200 prs.)
  - Other central staff functions: OPEX, Procurement, HR, QEHS,..
  - Suppliers (approx 200 ”relations”)
    - 4 Platform suppliers (SAP, Schneider, Siemens, Rockwell)
    - 8 Preferred MES/PLC Integrators
    - 10? Turn-key Suppliers (Tetra Pak, GEA, SPX, Krones, ..)
    - 150+ Line & Unit-equipment Machine Builders (PackML)
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Conclusions (1:2)
- The strategy process

- Select appropriate time-limit for strategy process – 9 months.
- Good timing depends (a.o.) on standardisation appetite in business.
- Establish Board Level steering group day-1
- Bring inspiration from equals in your industry (end users!)
- Ensure time and focus in your own team, to avoid ”pure consultants work”.
- Communicate to business – also during the process
- The ”right” number of business-input workshops (get input, prepare accept & anchoring of the final strategy)
- Make several ”test-runs” of communicating strategy before you go to Board Level.
- Be in your customers shoes all through the process, to avoid ”inside-out technical message only”
Conclusions (2:2)
- Selected outcomes

• Significant breakthrough, broad acceptance and an un-seen awareness in the Arla Supply Chain!

• Business view:
  • Better support to investments projects, clear roles.
  • Better utilisation of Arla standard, cost saving.
  • PackML machine interfaces – good example
  • Extended 24x7 Support on standard solutions

• Arla IT view:
  • Much more structure in Supplier relations
  • Simple task to re-form our team to deliver on strategy.
  • Clear team roles, increasingly critical as team become more geographically spread.

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Closer to Nature™ in everything we do

At Arla we believe that milk is nature's best food product. We are proud to process milk to make yoghurt, cheese, butter, milk powder and many other dairy products.

Most of our products are as natural as they can be and we have long maintained high food safety and environmental standards.

We combine traditional craftsmanship and world-class technologies, making sure we think about nature in every aspect of our supply chain, right from the cow until our products reach your home.