Pulp & Paper Chemicals

Jan Svärd
Be the preferred supplier of bleaching and performance chemicals to the worldwide pulp and paper industry

Sales 900 mln
2,900 employees

Paper Chemicals are added to the papermaking process to achieve the right paper quality and machine efficiency

Application

- Pulp manufacturing
- Pulp
- Paper machine
- Coating

Function

- Bleaching
- Deinking
- Retention
- Sizing
- Wet strength
- Coating
- Water treatment

Where Eka adds value
What do we mean when we say Retention?

We want to minimize the loss of valuable components.

Example of poor retention
Paper produced with Eka retention systems

1980 - 2005

M tons

0 5 10 15 20 25 30 35 40 45

80 82 84 86 88 90 92 94 96 98 00 02 04
Global Sodium Chlorate Market Supply 2006

- Eka Chemicals 31%
- Erco ww 16%
- Kemira 13%
- Canexus 13%
- Tronox 4%
- Arkema 3%
- Others 9%
- On site 12%
The ten largest producers account for 27% of the world’s paper and paperboard capacity. We have strong positions with these companies and they represent approximately 25% of our turnover.
Long-term Demand Growth by Product Area through 2020

Average 2.1%/a

- Cartonboards
- Tissue
- Containerboards
- Coated mechanical
- Uncoated woodfree
- Newsprint
- Uncoated mechanical
- Sack paper
- Other grades

Source: Pöyry
Demand growth by region through 2020, %/a

- India
- Russia
- China
- Eastern Europe
- Middle East
- Latin America
- Africa
- Rest of Asia
- Oceania
- Western Europe
- North America
- Japan

Average 2.1%/a

Forecast average demand growth globally 2004-2020 is 2.1% per annum. Corresponding figure 1988-2004 was 3.8% per annum.

Source: Pöyry
We invest where the growth is!

Different regions demand different strategies and we have 20% of our turnover in emerging markets.

**Regions with high growth in demand**
(China, other SEA, Brazil)

**Regions with low costs and available raw materials**
(S America, Indonesia, Russia)

**Major asset restructuring and cost reductions in the supply chain**

**Traditional Paper and Board markets**
(N. Am, W. Europe, Japan, S. Korea)

**Growth investments in pulp and paper chemical plants and in technical support organization**
Our focus

- Rationalization
- Globalization
- Increasing partnership with customers
Rationalization

- Substantial cost reductions of more than €65 mln during the last 4 years
- Closure of 10 production sites in Europe and NA
- Relocation of equipment from Europe to Asia Pacific and South America
- Automation and Industrial IT projects
Our focus

- Rationalization
- Globalization
- Increasing partnership with customers
We are located where pulp and paper is produced.
We are located where pulp and paper is produced

Paper chemicals production - Brazil
Bleaching chemicals production - Brazil, Chile
Chemical Island - Brazil

Expansion of Paper chemicals production – China, Taiwan

New product line - Korea, China

New bleaching business concept implemented at more than 15 mills in South America, North America and Europe
Our focus

- Rationalization
- Globalization
- Increasing partnership with customers
New Eka Technologies leading to increased partnerships

We are filing more > 20 patents in 2006


- New bleaching product for chemical pulp
- New bleaching product for mechanical pulp
- New bleaching technology replacing chlorine
- New products improving printability of paper
- New bleaching sequence reducing energy consumption
- New wet strength products for food contact applications
- Remote controlling
- Chemical Island
- New water treatment technology replacing traditional biocides
- Chemicals Management
- New paper chemical technology for retention
The traditional way of making ClO₂ (chlorine dioxide)

Delivery points

REDUCING AGENT $\text{H}_2\text{O}_2$

ACID

SODIUM CHLORATE

ClO₂-gas

GENERATOR

WATER

ABSORPTION

ClO₂ STORAGE

ClO₂ CONCENTRATION ANALYSIS

Pulp mill responsibility
Eka ClO₂ concept moves delivery point

New delivery point ClO₂

Pulp & Paper Chemicals responsibility
Remote doesn’t mean far away….

…with modern Industrial IT

Technical Support Eka Chemicals
- Trouble shooting
- Specific problem
- Benchmarking
- 24/7/365

Online Data Transfer
We will grow profitability by:

- Continued asset restructuring and cost reductions in mature markets
- Continued investments and further improved service capabilities in growing regions
- Innovative chemistry and new products
- Use of modern industrial IT to eliminate costs and improve efficiency in the value chain
Thank you!
Strong specialty product segments support pulp and paper growth

- **Colloidal silica** - core technology and product in paper chemicals but also used in markets like electronics, pharmaceuticals, construction and coating industry. This combination makes us the largest silica sol producer globally.

- **Expancel** - unique expandable microspheres used in paper production, but also in applications for e.g. the explosives, coatings and rubber industries.

- **Purate®** - novel and fast growing water treatment /purification technology used in pulp and paper industry as well as for municipal water treatment.
Growing and changing customer interface

- Opportunity for cost reduction in the value chain
- Optimization of working capital
- Opportunity to sell new services and take increased responsibility in the value chain

Supplier's Cost → Variable Costs → Fixed Costs → Customer's Cost → Customer's Price

We take actions in all the steps of the supply chain!
Eka Paper Chemicals Sales 2005

- **Retention**: 33%
  - Additive to retain fibre and filler in the paper
- **Sizing**: 40%
  - Water repellant for certain paper grades
- **Others**: 27%
World Production of Paper and Paperboard

1980 - 2005

M tons
Eka VMI – Supply Chain Excellence

Back up slide

Automated orders

Improved visibility

Customer

e-invoice

Inventory

Consumption

Status

Deliveries

Transporter

moving costs  removing costs
Chemicals management services to the mill

Fast implementation
Efficient operations
Value adding services

Eka Purate
biological control

Eka ASA
On-site sizing

Eka NP 200
retention

Eka Monitrol
Retention control

Eka NIR
Paper properties
Industrial IT platform for remote operation and service

Back up slide

Customer support | Orderdesks | Specialists | Eka

Increased visibility
Automated Functions

One Tool

Customer

CIO2 | VMI | ASA

Improve the service
Reduce the costs
One system for value chain optimization

Supplier’s Cost
- Maintenance
- Logistics
- VMI
- Raw materials

Variable Costs
- Process Development
- Production Planning
- Benchmarking
- Logistics

Fixed Costs
- Staffing
- Maintenance
- Utilization

Customer’s Cost
- Reducing Consumption
- Maintenance
- Staffing
- Production Planning
- VMI
- Utilization

Customer’s Price
- Improving quality
- New products
- New services
Business profile

- Total revenues EUR 893 mln (2005)
- 2,900 Employees
- Global market leader in bleaching chemicals for pulp manufacturing and performance chemicals for the papermaking process to achieve the right paper quality & machine efficiency
- Business segments (incl. sales share of total Business Unit)

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<thead>
<tr>
<th>Bleaching Chemicals</th>
<th>Paper Chemicals</th>
<th>Specialty Products</th>
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<tbody>
<tr>
<td>(50%)</td>
<td>(35%)</td>
<td>(15%)</td>
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Example

Remote control of chemical operations