Food & Water Division
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- High speed separators
- Decanters
- Food systems
- Hygienic fluid handling
- Food heat transfer
Order intake:
SEK Bn 12.3 (+8%*)

Sales:
SEK Bn 11.8 (+3%*)

*) Compared with WY 2016, fixed rates
Industry focus...
- What does this mean in the Food & Water Division

- Dairy
- Brewery
- Ethanol, Sugar, Starch
- Edible Oil
Brewery growth is regionally tiered

Source: Canadian, BU Brewery analysis
Brewery industry trends

Profit, differentiation, diversification and frequency
The brewing process

Brewhouse
Mash & wort production

Coldblock
Yeast handling & fermentation

Filtering
Clarification, blending & carbonation

Treatment
Bright beer & de-alcoholization

Packaging
Pasteurization, filtration & filling

Utilities
CIP, deaeration & cooling
Innovation tracks

- **Dry-hopped beers**
  Extremely popular
  Rapidly growing demand worldwide

- **Larger breweries**
  Moving into the craft/specialty beer market

- **Demand for specialty hops rising**
  Prices for dry hop also rising
  Breweries looking to improve yields
Innovation; Alfa Laval Iso Mix

- Faster process - from 7-10 to 2 days
- Fewer tanks - from 5 to 2 tanks
- Reduced losses - from 10-15% down to 2-3%
Innovation; Disc stack separator

- Patent design
- Power reduction
- Increase capacity
- Increase cleanability
Edible oil industry drivers

Structure
• Population
• Urbanisation
• Living standard
• Consolidation
• Healthy living

Technology
• Increased Efficiency
• Capacity Expansion
• Reduce use of water
Oil demand continues to grow

Source: Oil World, September, 2016
Edible oil process overview

**Crush & Extract**
- Crude Palm Oil
- Olive Oil
- Avocado Oil

**Clarify**
- Degumming
- Neutralisation
- Dewaxing

**Degum Neutralize Dewax**
- Bleaching to remove impurities

**Bleach**
- Deodorization to remove volatile components and thermally stabilize

**Deodorize**
- Modify by fractionation, or hydrogenation to produce liquid oils and fats with specific melting behaviour

**Modify**
- Biodiesel

**Pre-treatment**
- Glycerol
- Esterification

**Yellow Fats**
Soya bean project in Brazil
– SEK 125 million (June 2017)

- **Process lines:**
  - Degumming & neutralization
  - Double washing section
  - Double bleaching
  - Deodorization
  - Post stripping

- **Core Products:**
  - Alfa Laval Disc stack separators
  - Alfa Laval Plate Heat Exchangers
  - Alfa Laval Aalborg industrial boiler
  - Alfa Laval pumps

- **Service**
  - Performance agreement for separators
Innovation; Decanters, olive oil

- Optimized for high oil recovery
- Increased yield
- Increased capacity
- Gentle treatment for premium quality oil
In summary...
- Food & Water Division

- Food & Water outlook positive
- High pace of innovation
- Sustainability enabler
  - Optimize resource use & increase yield
  - Water re-use
  - Energy savings