Why innovation?

- Stay competitive
- Increase market share
- Improve profitability
Alfa Laval and innovation
– Part of our culture since 1883

Gustaf de Laval
The man of high speed
Alfa Laval and innovation – our definition

“People creating and implementing new ideas that create value”
Sources of inspiration

- Customer needs
- New market demands
- External companies
- Competitors
- New legislation
- New construction materials
- New production techniques
- New production techniques
- New materials
Innovation
– about products and beyond

The offering
Product performance
Functionality

Configuration
Business model
Network
Structure
Processes

The experience
Service
Channels
Brand
Engagement

Features and benefits

How we do business

The customer experience
Innovation
– the offering

- Upgrades
- Cost saves
- Improve existing products
- Make existing products cheaper
- New products
- New platform
- New markets
- New products
- New existing markets
- Breakthroughs
- New generations

www.alfalaval.com
An example from history
– the journey from milk and cream
R&D footprint

R&D in numbers

- 2.0-2.5% of sales
- 500+ employees in R&D
- 20+ product centers for new product development
- 35-40 new products/year
R&D process

- Business idea defined
- Approved feasibility study
- Business plan complete
- Approved prototype
- Ready for sale
- Hand over to line

Idea
- Feasibility study
- Pre-study
- Development & design
- Implementation & production
- Launch
- Closure
Launch!
Innovation metrics

**Time to Market**
The time to launch from the start of the pre-study

**Newness**
Share of capital sales orders in last 12M from products younger than five years

**Time to Profit**
The time it takes to recuperate the total project cost and make the same amount in profit based on Consolidated Gross Margin (CGM)

Goal of 25-30% newness in sales
Patents
– Key to ensure protection of products and investments

- High focus on IP Rights
- Protection with patents, trademarks and design rights
- 2,400 patents
- 35-70 new applications annually
- Aggressively protect our rights

“If you are going to copy then copy somebody else”
Three successful innovations

– Recent innovations in our three key technologies

Separators
- Decanter: LYNX 1000

Heat exchangers
- T8/T35 Gasketed PHE

Fluid handling
- i-range pumps

- Customer cooperation
- Legislation driven
- Performance innovation

- Next generation
- Performance step change
- Innovation in a crowd

- Market positioning
- Sufficient functionality
- Cost innovation
Separation
LYNX1000 decanter

Directive 074
February 3, 2009
Tailings Performance Criteria and Requirements for Oil Sands Mining Schemes

Picture: oil sands tailing pond
LYNX 1000 decanter

Step by step optimisation
- Test
- Pilot
- Full scale

2012
Full scale pilot

2015
Commercial plant

www.alfalaval.com
Path to success
LYNX1000 decanter

※ Environmental laws drive demand.

※ We adapt our technologies to new applications. In this case, decanters to treat tailings.

※ Liquid waste is common in other industries as well, creating opportunities ahead.
Heat exchangers
Alfa Laval T8 and T35 plate heat exchangers

Alfa Laval T35
• First model in next generation
• Replacement
• Performance innovation

Alfa Laval T8
• Innovation in a crowd
• Gap filler
• Cost innovation, energy efficiency, improved performance

Competitor’s units
Heat exchangers
Alfa Laval T8 and T35 plate heat exchangers

T8 – gap filler

T35 – replacement
Fluid handling
i-range pumps

Market positioning

- Value focus
- Alfa Laval quality
  Basic functionality
- Cost focus

Price

Basic demand
Basic design
Alfa Laval quality

Performance

www.alfalaval.com
Our experience

- All regions
- New business
- Solid margins
Conclusions

* Innovation is part of our culture, how we are perceived and what we stand for
* Strict processes ensure timely launches of the right products with good returns
* Patent protection is vital
* High focus on innovation to maintain leading market positions and deliver profitable growth