

# Reporting, KPIs and data analysis with Polarion

## Nordic Polarion User Day, Helsinki 2019-05-08

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System Engineering, DeLaval International AB



# Reporting, KPIs and data analysis with Polarion

## Agenda

- Company introduction
- Why is data analysis important?
- Success stories
- Challenges ahead

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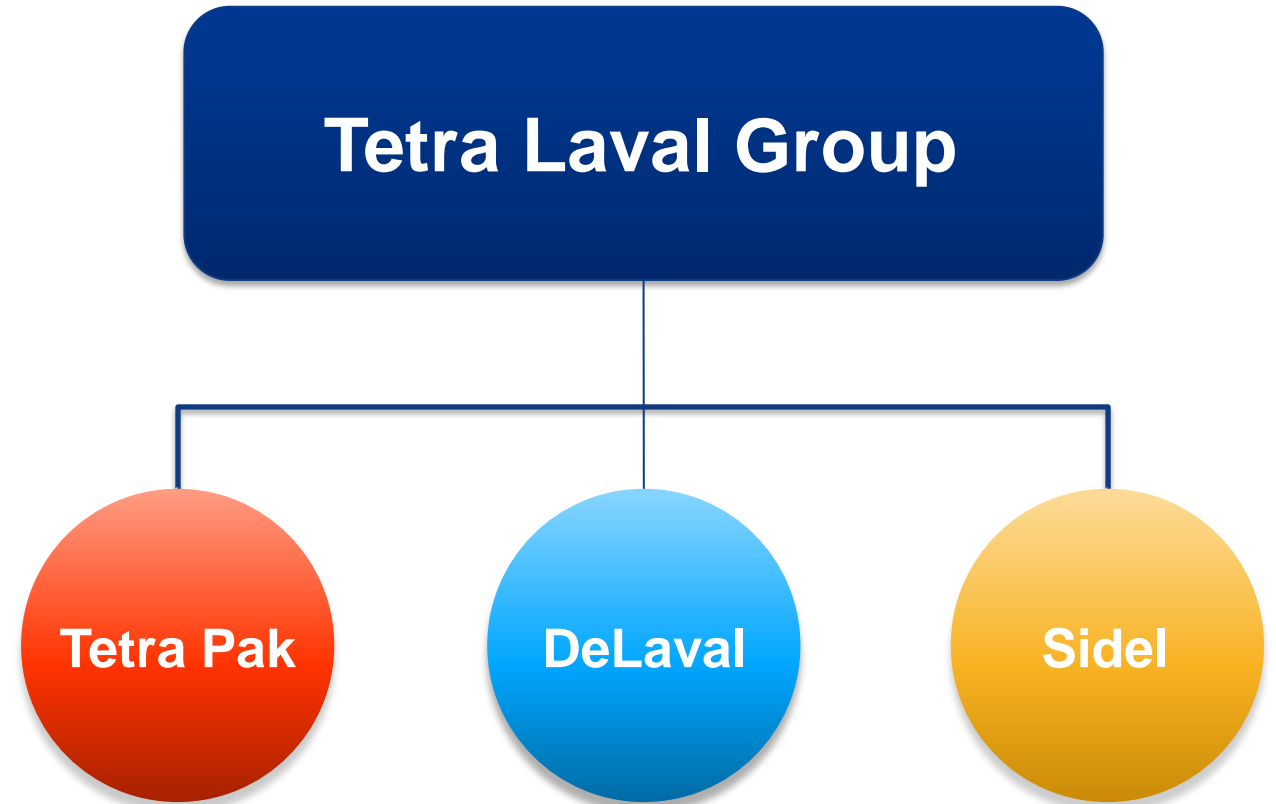


## Solutions for every farm and every farmer



## DeLaval statistics

- 4,500 employees worldwide
- Net sales 2017: €935 million
- Serving customers in more than 100 countries
- Our own R&D farm
- Living milk since 1883



# System Engineering

## Organisation

### Development & Engineering:

- Responsible for development and engineering at DeLaval, covering all applications except for robotic milking
- Software, mechanical and electronics engineers
- The Agile software program is responsible for embedded device development, real-time systems and PC/app client development
- 254 employees in five countries (Sweden, Poland, USA, New Zealand, China)

### System Engineering:

- Part of the Development & Engineering department
- Created in spring 2017
- Team of seven persons
- Working from two different sites (Tumba, Wrocław)

# System Engineering

## Areas of responsibility

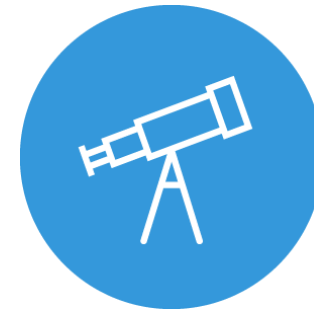
- DeLaval requirement process and structure
  - Ownership and support of the requirement and test management tool (Polarion)
  - Requirement training
  - Active requirement management in allocated projects
  - KPIs and quality measurement
- System architecture alignment



# Polarion at DeLaval

## Overview

- Polarion is the requirement and test management tool used by DeLaval since the beginning of 2014
- Statistics April 2019:
  - 550 users
  - 67 Polarion projects
  - 46,700 work items (excluding headings)
  - 15,500 product requirements
  - 10,600 test cases
  - 11,900 test runs (automatic and manual)





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# Why is data analysis important?

## Measure and predict progress

- How much have we done versus the target?
- How much do we have left?
- Will we be able to finish in time?
- What are the trends over time?



## Why is data analysis important?

Evaluate the quality of the requirements and testing processes

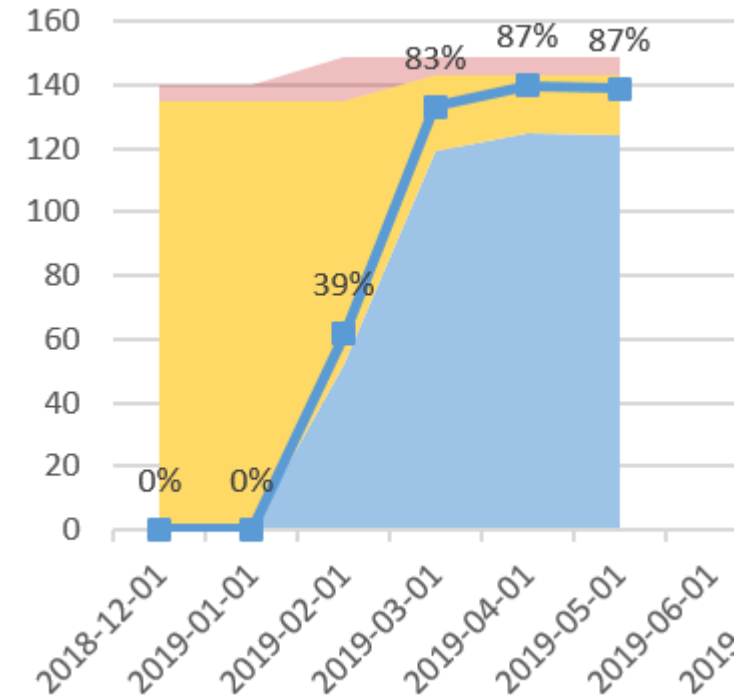
- Which process steps are working well?
- Which ones should be improved?
- Which ones are missing?
- Which behaviours should be addressed via Key Performance Indicators (KPIs) and Performance Indicators (PIs)?



# Why is data analysis important?

## Planning tool for System Engineering

- Which projects need our support?
- What support is needed?
- When is the support needed?
- How much support is needed?
- Which training is needed, by whom and when?



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## Success stories

### Management support and interest

- “Proactive Quality” goal since 2016, a combination of:
  - Test Case Coverage
  - Test Case Execution
  - Test Case Pass Rate



## Success stories

### Monthly Proactive Quality report

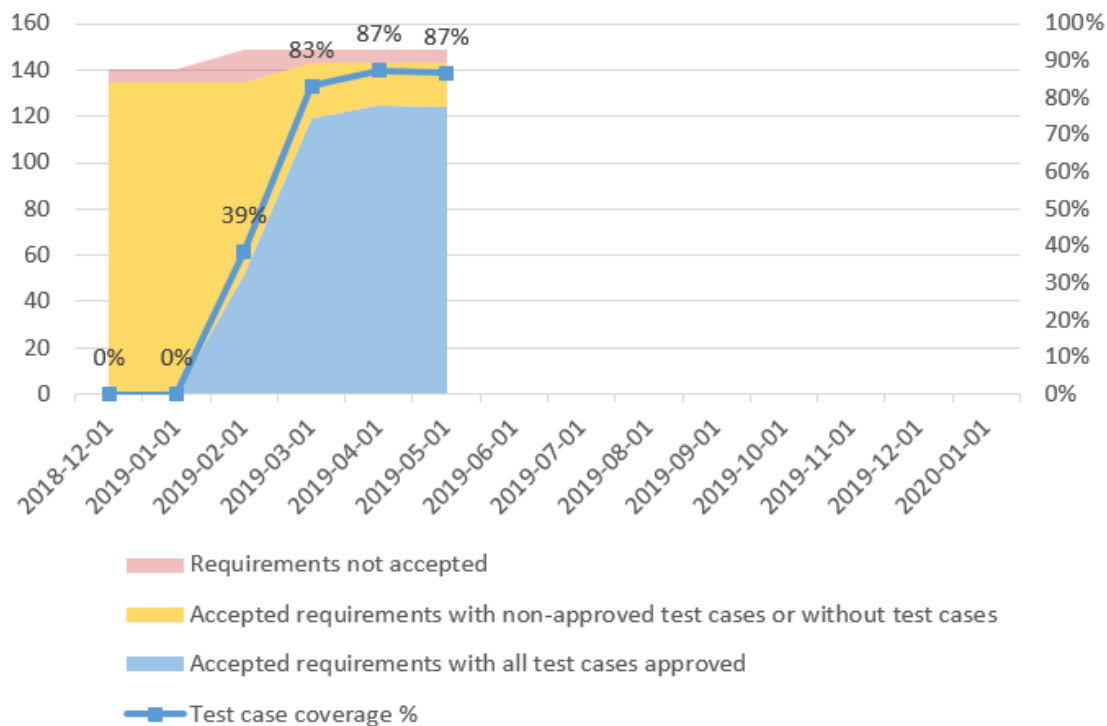
- Created and distributed to management and projects since 2016
- Measured projects must present their progress in the report at their Project Steering Group meetings (PSGs)



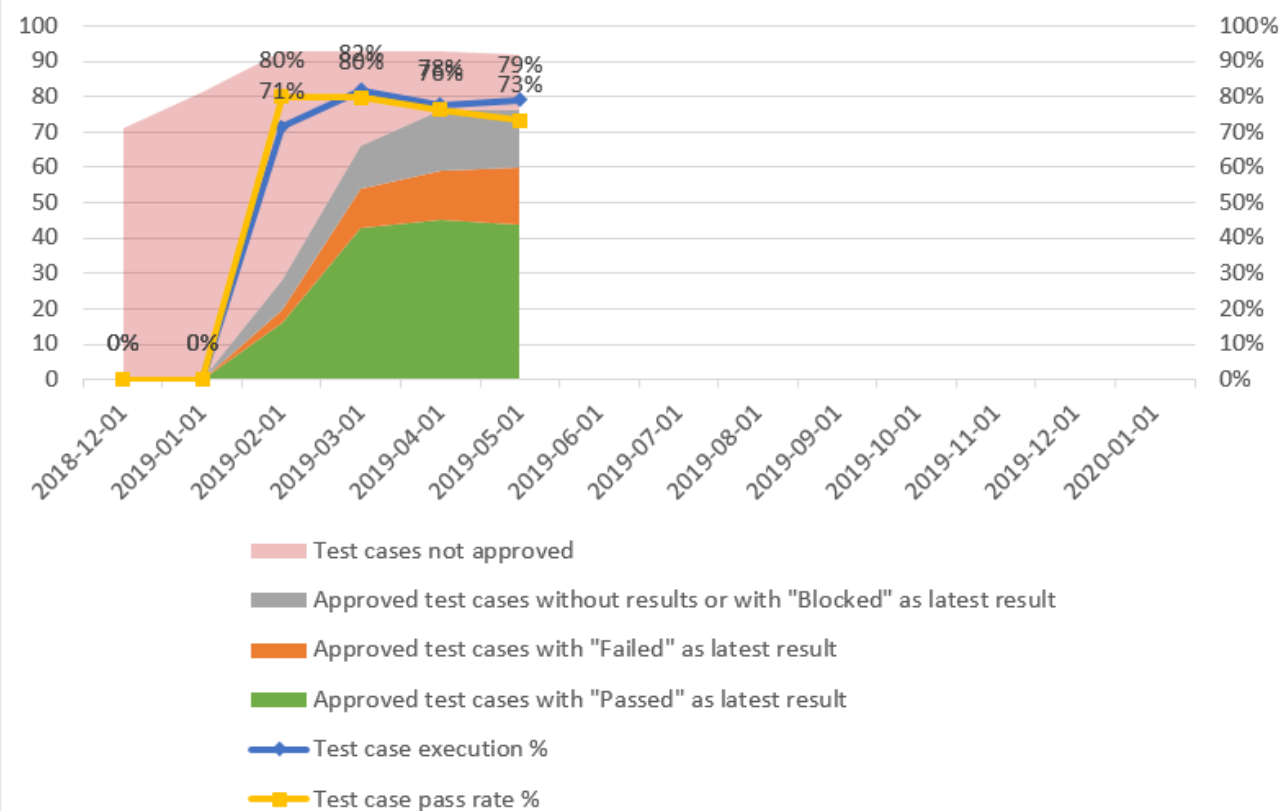
# Success stories

## Monthly Proactive Quality report (example)

### Test Case Coverage



### Test Case Execution and Pass Rate



## Success stories

### A large number of other supporting reports

- Generic reports that can be used by all development projects
  - “Test Case Coverage and Test Case Execution” report
- Custom reports that are used by certain projects



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# Challenges ahead

## Information transfer

- Examples of information transfer:
  - Orderer today to orderer in the future
  - Orderer to supplier (internal or external engineering)
  - Orderer and engineering to verification
- How can our processes ensure that we have successful information transfer?
- How do we follow up if we have successful information transfer?

# Challenges ahead

## Information completeness

- Requirements coverage:
  - How can we know if the orderer has added all requirements that are needed?
- True test case coverage:
  - How can we know if the tester has added all test cases that are needed?
- How can we know if and when the testing is completely done?