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Requirement management development and harmonization at company merger

Taipuva ALM Solution Day 25.4.2017

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Danfoss in Brief

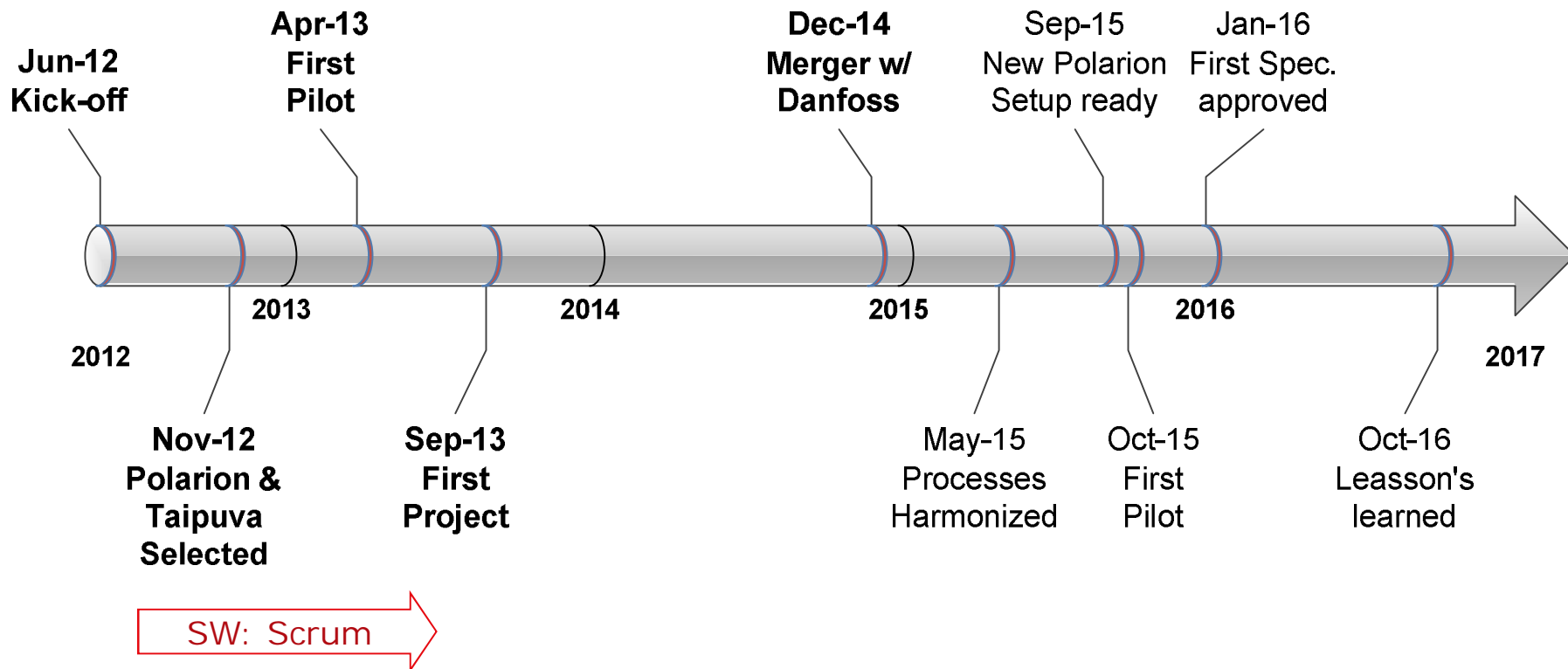
- Headquarter in Nordborg, Denmark
- Privately held company
- More than 25'000 Employees

- Segments; Cooling, Heating, Power Solution and Drives (Vacon became part of Danfoss in December 2014)

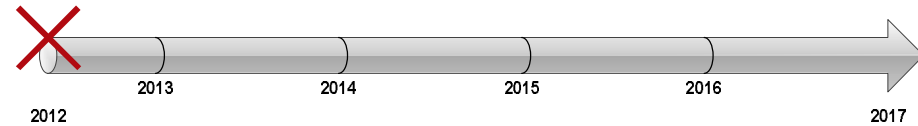
- Key Financials 2016
 - Net Sales 5.3 billion EUR
 - EBIT 572 million EUR

- Top three markets; USA, China and Germany

Requirement Management Journey



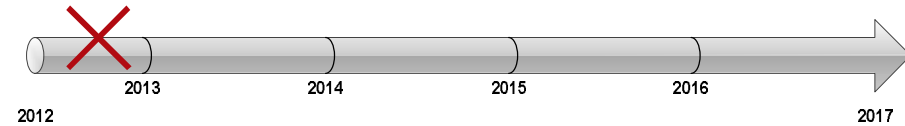
Project Kick-off



- Starting point
 - Product development was centralized to Finland and it used to be much smaller in scale. Specification tools were mainly Microsoft Word/Excel
- Target was to take requirement management to a whole new level. That includes both process and new tool. This would be enabler for successful global product development
- Supporting studies were made (Lean Six Sigma Black Belt), which shows that following things have had biggest impact to the "project slip rate":
 - Processes in place and followed
 - Sufficient resources for the project
 - Specifications available on time

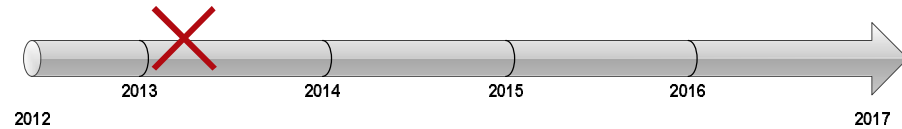
Definition of Slip Rate: Actual/planned duration of the projects

Partner & Tool Selection



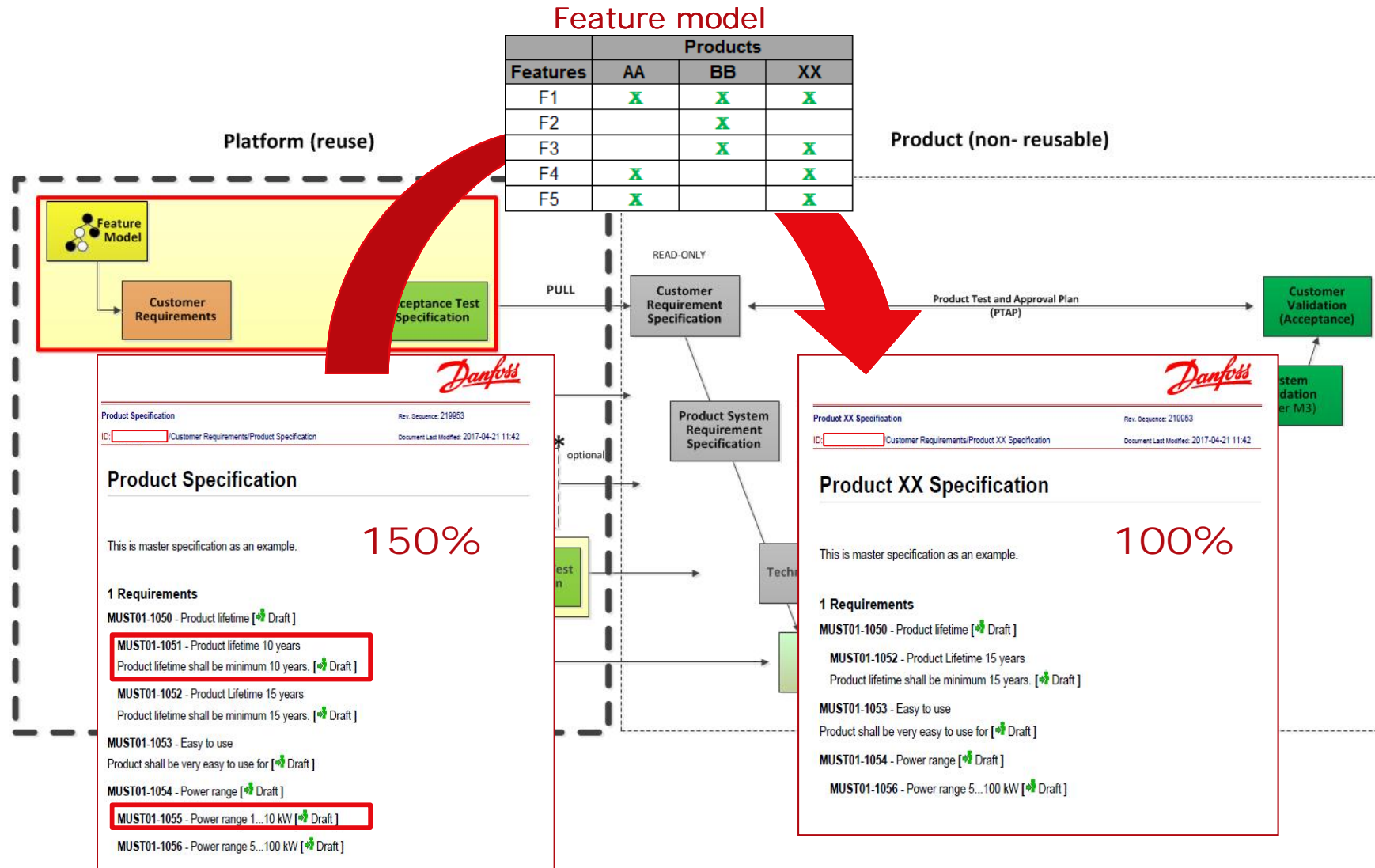
- In our case, a new tool and process improvement were needed
- Several tool providers were analyzed and they were met. Then they were shortlisted for further analysis
- Reference visits to some companies turned out to be very important
- As a result, Polarion fulfilled all our needs and it was easy to use. Tool was also easy to configure, which enables us to be flexible in new process.

First Pilot project

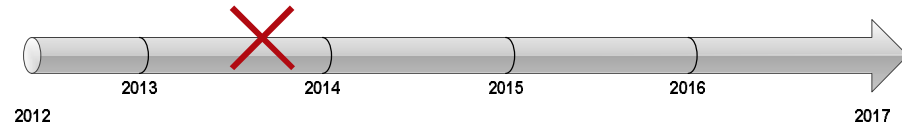


- Pilot phase and preparations work is probably the most important phase in this program (Especially, if process is also changed)
- Consider which kind of process is needed
 - Whole company, team or department tool
 - Content is SW, HW, combination or complete products specifications
 - Who are readers and writers of the specifications.
 - Especially if readers are familiar with the product or SW, then specification level is different compared to outsourced development
 - Way of working (using document, links, traceability, re-usability, and any other features of the tool)

Example: Data Structure & Variant management

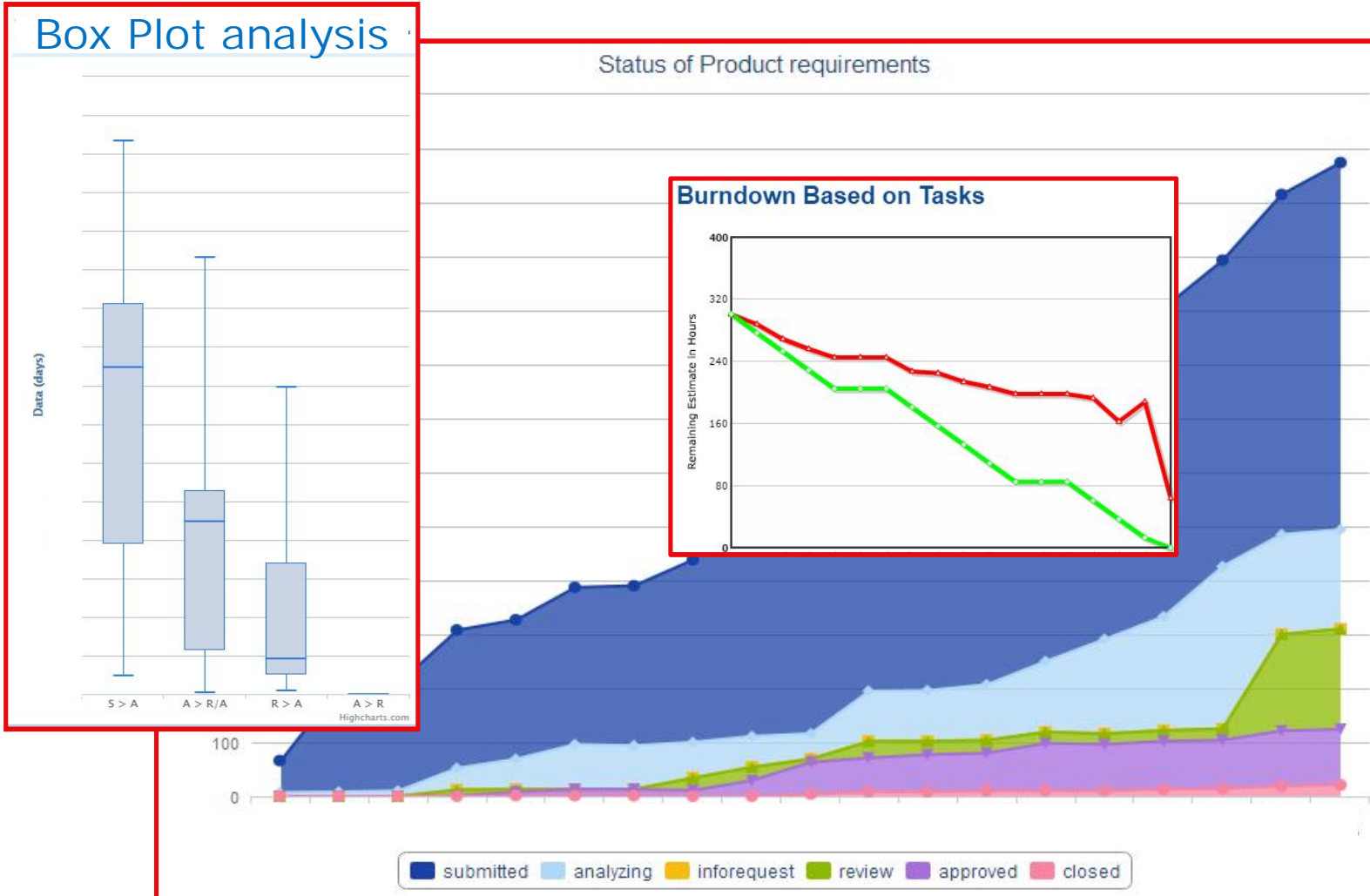


First Project

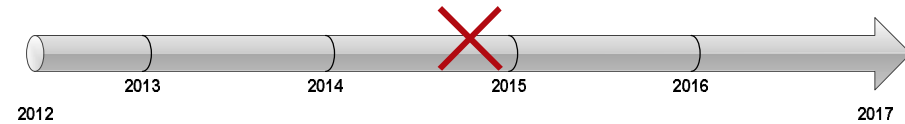


- Select real project which is about right size (not too big or small)
- Select right people (full focus to new tool and process improvements)
- System has more data during first project and many kind of things will appear at this phase (technical, content, performance issues, etc.)
- At this stage some fine-tuning and improvements happens and new Polarion features could be taken in to use (e.g. change management, reports, wiki pages, etc.)

Example: Metrics

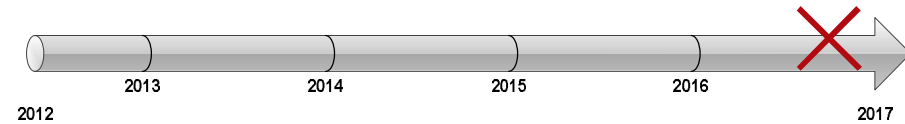


Company Merger



- In starting situation both companies had Polarion in use. Vacon had started two years ago and Danfoss was about to start.
- Process Harmonization took place and new process was documented. As a “side project”, there was Polarion ALM tool configuration.
- After process harmonization and tool configuration, basically all the same steps were repeated as before (pilot project, first project, fine-tuning, training)
- Data from Vacon server was migrated to new Danfoss server.
- When everything was tested and approved, then Vacon server was ramped down (clean up, project selection, planning and migration of needed projects)

Summary



- One Harmonized process is used (formal way of working, review, approval, change, document usage, etc.)
- Web-based Polarion tool in use where (live) data is stored
- Library of re-usable requirements. Tens of thousands of items exist in the system
- Polarion is used for Requirement/Change/Test/Variant management
- Agile SW development process, which Polarion supports very well
- Polarion is also used for technical support and bug reporting (“Maillet”)



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