Fusion Lifecycle and Vault: The Synergy

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PDM – PLM - Process Manager
Dimitri Van Nuland has been active in R&D in many different industries and roles since the end of the 1990’s. After obtaining 2 master degrees at the University of Antwerp, one in electro-mechanical engineering, a second in Industrial Entrepreneurship, his life has been centred around design & developing new machines, laboratory equipment for the ISS, and new processes within different industries. Roles in this have varied from designer, innovation consultant, maintenance engineer, system architect, until the last 8 years Development Manager at Reynaers Aluminium. Also with respect to industries, the landscape has been very diverse with aluminium manufacture, space engineering, pharmaceuticals, telecom, lighting, windmills. His objective always being, challenging the status quo, and see what can be better, more efficient. He recently accepted responsibility within Reynaers for a new role, Manager Industry 4.0. The focus of this teams lies on the development of the different software & machine solutions for the Reynaers’ customers, as well as on the different digital transformation tracks inside R&D.
Carl Schelfhout has been active within the Development Team for already 25 years at Reynaers. After obtaining masters of electro-mechanical engineering and a MBA, he recently obtained his degree as interior designer and started his own interior design company.

He introduced PDM in 2000 in order to structure all Product Data and files. The PDM system is now fully customized in order to automate and digitalize our workflows.

Being responsible for the migration towards Vault in 2018, he also implemented Fusion in 2019. Both software's are now combined and linked to ERP and different websites. The "synergy" is on-going.
REYNAERS ALUMINIUM

TOGETHER FOR BETTER

Jasper Evers Architects – Photo: Philippe Van Geleoven
CLOSE TO OUR CUSTOMERS

Family business | HQ in Belgium | Offices in 40+ countries | Worldwide sales: 5000+ partners using our products |

17 logistic centers | 4 insulation sites | 4 paint sites | 9 training sites | 3 test centers

Turnover +580 M € (680 M $) | 2300 employees
PRODUCT PORTFOLIO

Main product groups: Windows & Doors, Sliding Systems, Curtain Walls
Portfolio: ± 80 systems/product lines (related to these product ranges)
THE TRIGGER FOR PDM
Reynaers is a very innovative company and not afraid to implement new technologies at different levels in the organization. A good example is “AVALON”, our 3D cave. 32 laser beamers are able to generate a real 3D experience. Game related software’s like Unity and Unreal are used for real-time impressive rendering. Architects can visit Reynaers and show there designs and projects to their customers.
PORTFOLIO
AUTODESK & OTHERS
WHY PDM?

To automate the preparation of our technical documentation (70 product systems x 500 pages = 35,000 pages)

Metadata articles only available on the technical drawings > typing over !!

To stop storing all drawings in windows explorer | no revision management | risk of deleting/overwriting
SMARTEAM : End Of Life
Communication EOL 2020 – 2025 > in search for alternatives
4 ALTERNATIVES

4 main players in Europe: Team center Siemens | Wind-chill PTC | Ennovia Dassault | Vault Professional –Fusion Lifecycle Autodesk

Team center, Wind-chill, Ennovia: PDM/PLM integrated in one software
ANALYSE THE 4 ALTERNATIVES

>500 criteria/questions (spread over 13 domains) to evaluate all software

Support from external company to perform the audit, over 9 months

Key learnings: every criteria needs to be well evaluated and proven + need to have a future roadmap check as well
DECISION: VAULT - FUSION

Tipping point for Autodesk platform:

(1) Flexibility, strong & up-to-date integration with AutoCAD, Inventor, Revit as well as cloud based aspect of PLM (2)

Crucial factor in the decision process: need for an implementation partner that really understands your business. For us, Arkance was responsible for 20 years of customization (3)

VAULT to store all the REYNAERS knowledge & data

FUSION to manage the lifecycle of our NPI projects, products/articles, and other processes in R&D
This was an inter-departmental project: Development (initial users), ICT, ERP-team, Arkance CAD Supplier, Autodesk consultant.

Project was split-up in work packages + External project manager to chase all participants: finalize the complete migration in 8 months = very fast!!

X-Mas Switch: Stop Smarteam on 20th of Dec 2019. New Vault 1st of January 2020

Key Learnings: perform enough test migrations + watch out for updates of Microsoft
FACING A BIG CHANGE : INFORM USERS!

Changing to a PDM and/or PLM requires good Change Management = critical for success.

Users were informed far in advance about the introduction of Vault and all trained about 3 weeks before the final introduction.

Also key users were informed, trained earlier to test and validate integrations => later also useful for local support.
STRUGGLING WITH ITEMS : 2-LEVEL ENVIRONMENT

Smartteam: one level > BOM = link between drawings
Vault: 2 levels > File = Properties | Item = relations
Key Learning: this concept needs to be properly understood by all who will use the SW + all who will maintain the software
STRUGGLING WITH COMPLETING METADATA

How to check the completeness AND the correctness of all metadata before approving an article (drawing)?

Additional screen + built-in customized release checks
ACTUAL USE OF VAULT

Vault used in all DVPT centers: Belgium (headquarters) | France | Poland | Switzerland (Forster) > use same development workflow.
USE UNIQUE PROJECT FOLDERS

Single source of information: unique project folder + phase sub-folders > accessible by different departments (linked between FLC and Vault)
ECO’S : DIGITAL APPROVAL + RED-LINING

100% paperless: ECO’s, Digital Approve the drawings and/or update existing official drawings > + all actions are traceable in Vault.

Use redlining!
SHARING INFO OUTSIDE VAULT

**Original files**: +500.000 : Article drawings 100.000 | Docu +50000 | Lib : +120000 | IPT/IAM +60000 | Office 61500 | Items : 171825

**Output files**: +500.000 (pdf’s technical drawings, pdf’s documentation, png’s websites/warehouse terminals, step files)

Easy access 3rd party software -> limited use of the API
**SHARING VAULT INFO**

**Article website**: visualization of ALL available info in Vault (Live Vault connection API) and ERP

Most popular website @ Reynaers for internal, customers, suppliers!
WHY FUSION?

Urgent NEED for one centralized tool to manage projects and to manage the product life cycle of an article.

Managers and team leaders spend hours to search for article life cycle information in different environments as ERP, Vault, SharePoint, MS project, ...

One live dashboard with the latest status, workflow step accessible depending on access rights and needs.
Fusion Lifecycle’s flexibility

USER ACCESS RIGHTS
Easily organize view, read & write access.
Although it looks complex at first, it allows for a lot of freedom.
=> a standard sandbox environment

JAVA SCRIPTING
To program and automate yourself
Integration with Vault, ERP… (also with CoolOrange)

WORKFLOWS
Easy creation and changing
Visible to all
Straight forward setup for validations
Key learning: overcomplicating WF’s for clarity and management vs ability to report.

PROJECT MANAGEMENT
Strong gathering and visualisation of info together
Advanced print views as reporting
The approach to building and rolling out Fusion Lifecycle was very different from that of Vault.

Still critical to have from the beginning the final solution and roadmap in mind

But more iterative process, where a part of the solution is discussed in brainstorms, and a certain setup is quickly built and tested.

This also allows for certain features to be released sooner by just changing rights, and so also built-up trust with your users.

**Key learning:** as soon as you start working with real data, some limits start appearing on what you can change.
1. REQUESTS (RFD) 20.REQxxxx

- Manage all requests (for NPI, for customized project solution, for BIM models, for test …)
- All sales markets have access to Fusion
- Requests were evaluated by our technical experts (RFD-meeting)
- When accepted, a unique project nr is created 20.Dxxxx and communicated to ERP & Vault.
- Also markets are informed about the decision. A project folder is also created in Vault automatically.
2. MANAGE PROJECT STATUS

(RFD) > Draft > PRD > PROposal > DEvelopment > GENeration > Launch

Manage all tasks
3. PLAN OUR PROJECTS

Fusion as alternative for MS Project. We do not have a resource planning!

Key Learning: 80% of functionality OK, but still awaiting finalizing Autodesk for “updatable” planning.
4. FOLLOW-UP ARTICLE STATUS/LIFE CYCLE

Global status per article. Detailed life cycle follow-up per article

Also ERP/Vault article info is imported in FUSION > info from Fusion, Vault and ERP visualized.
5. PROJECT REPORTING

Using Advanced Print views
THE SYNERGY: VAULT FUSION ERP

Project created in Fusion, Vault and ERP | Fusion article overview used to build up a Vault Folder and drawing structure | Drawing status Vault exported to Fusion

All connections are custom made!

ERP is part of the synergy.
GLOBAL PICTURE

Complete integration of Fusion and Vault within Reynaers
DIGITAL WEB : VAULT FUSION CORE

4 goals 2021: Link to PIM | Migrate Research to Fusion/Vault | improved communication with suppliers using shared views | Integration BIM models
1. Prepare Full roadmap
   Implement in steps

2. Change Management: inform users in advance > advertising, regular info sessions

3. Migration period: watch out for MS Windows updates (Christmas)

4. Migration: external customized import tools

5. Project Management and reporting (-) > involve Autodesk

6. Fusion: self programming possible + Forums

7. Fusion: security very flexible > protect strategic info

8. Put enough time in defining the data architecture incl. future roadmap

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