

What You Need to Know Before You Go: Tips & Tricks for Transitioning to Vault

MFG321646

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Designer II – IMI Precision Engineering



Class Overview

In this class, we will review some best practices for preparing your facility to transition to using a PDM system such as Vault. This will cover Autodesk CAD file management as well as other file types.

Key Learning Objectives

Discover best practices for data management

Learn about Vault workflows as they relate to different file types

Learn how to comfortably migrate data into Vault

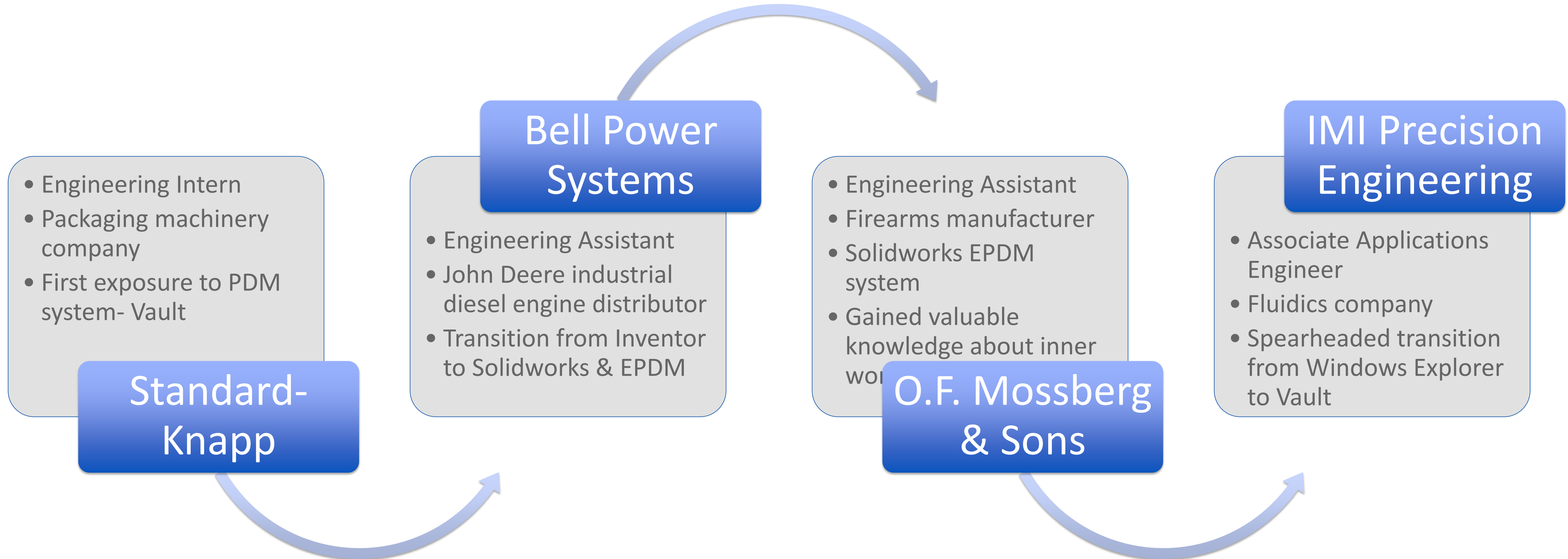
Learn how to create a well-organized, streamlined Vault



About the speaker

Lauren is currently working as a Designer at IMI Precision Engineering in Farmington, CT while pursuing her Bachelor's Degree in Mechanical Engineering Technology at Central Connecticut State University. When she's not working or at school, she enjoys reading, playing music & mountain biking.

About the Speaker



The IMI Group – an overview (March 2019)

To deliver great solutions that tackle the most demanding engineering challenges

Operating cash flow²
£222m

£1,907m

Revenue

£266.3m

Operational Profit

11,000

Employees

14.0%

Operating Margins

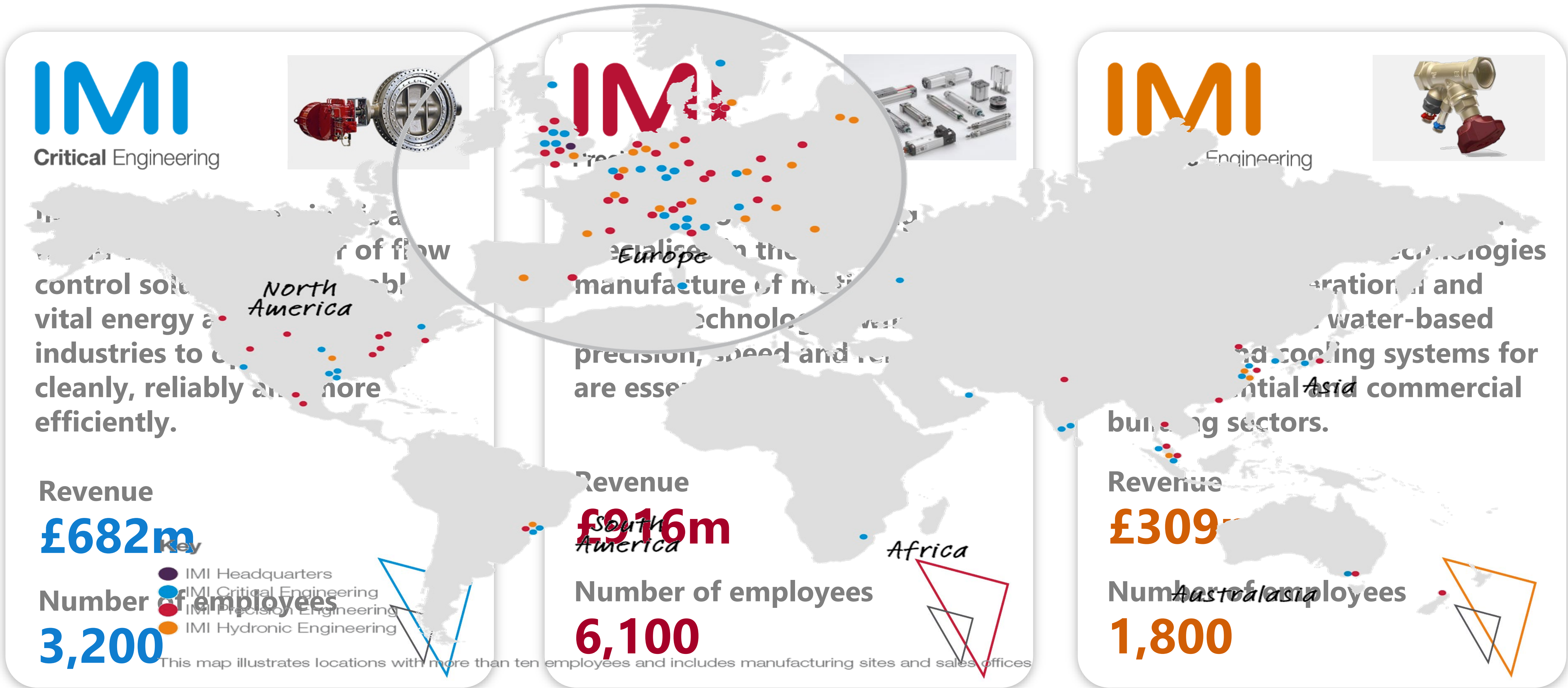
World Leader in Fluid
Control & Motion
Applications

**FTSE 250
Listed**

Partner to 100 Global
Blue Chip Companies

IMI plc

IMI and the *Three divisions*




IMI plc

Precision Engineering

Adjusted revenue
£916m

Adjusted operating profit
£153.2m

Number employees
6100*

 Industrial Automation



 Commercial Vehicle



 Rail



 Life Sciences



 Energy



Brands



IMI NORGREN®



IMI BUSCHJOST®



IMI FAS®



IMI MAXSEAL®



IMI HERION®

*2018 Results

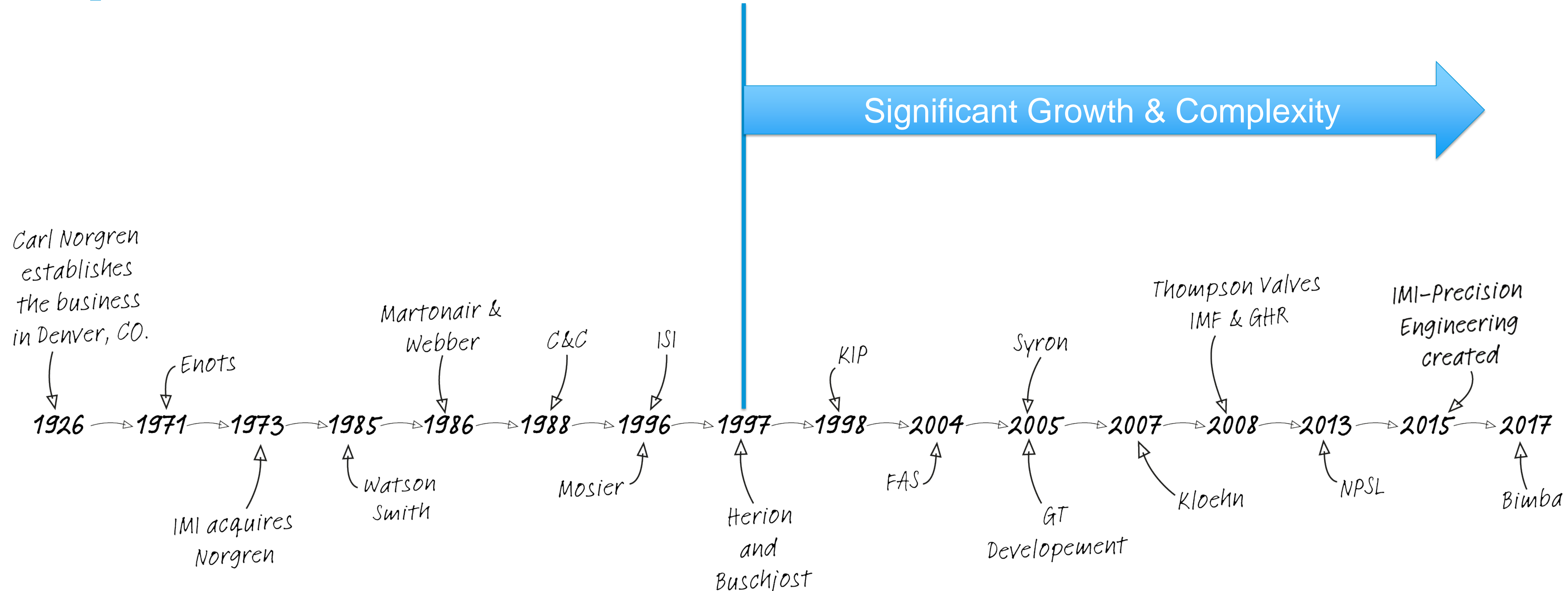
IMI Precision Engineering

A global company with a global footprint

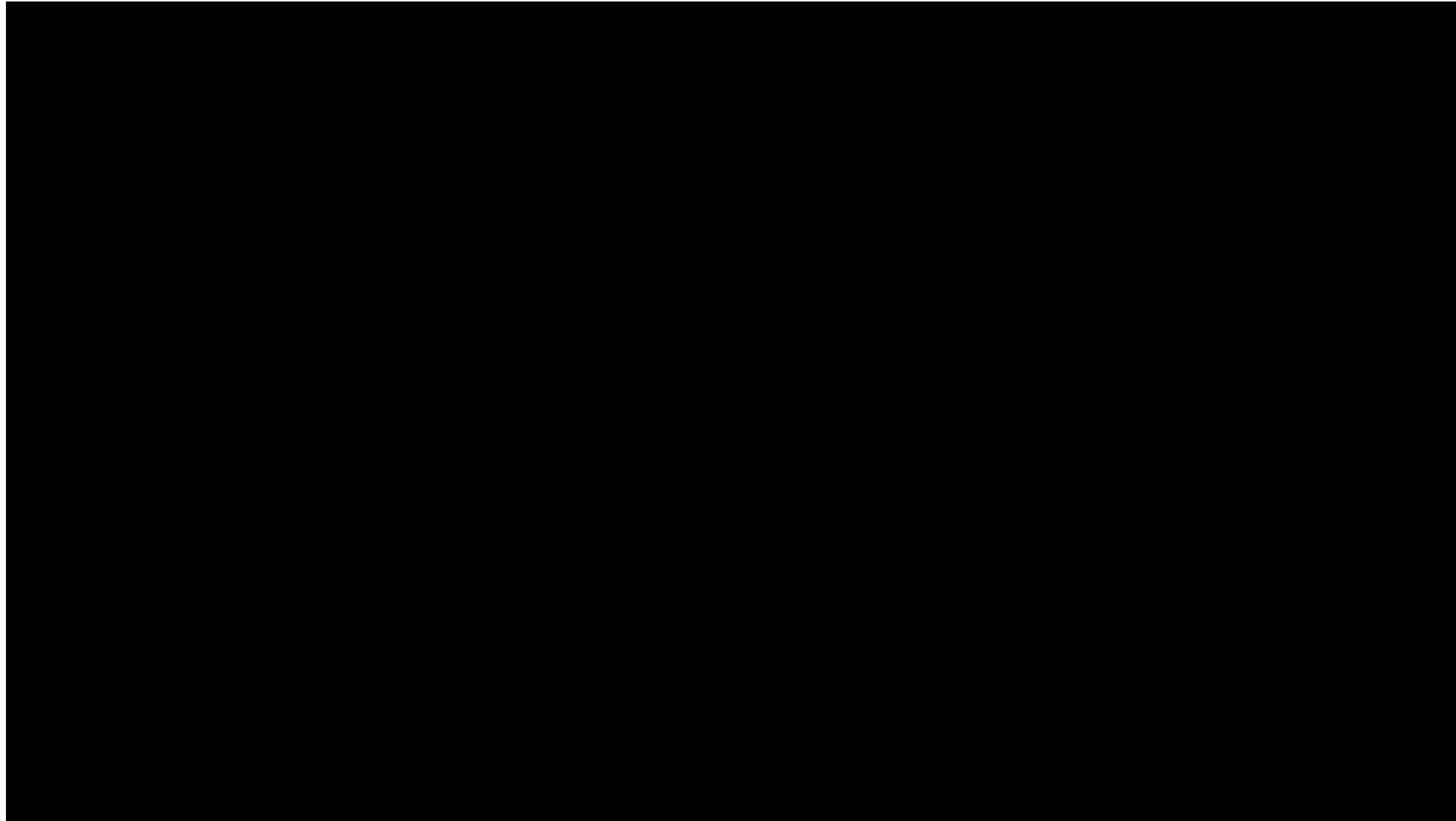


Company history

Acquisition timeline



IMI Precision Engineering



IMI Global Introduces: The Six Year Plan

Began in 2014

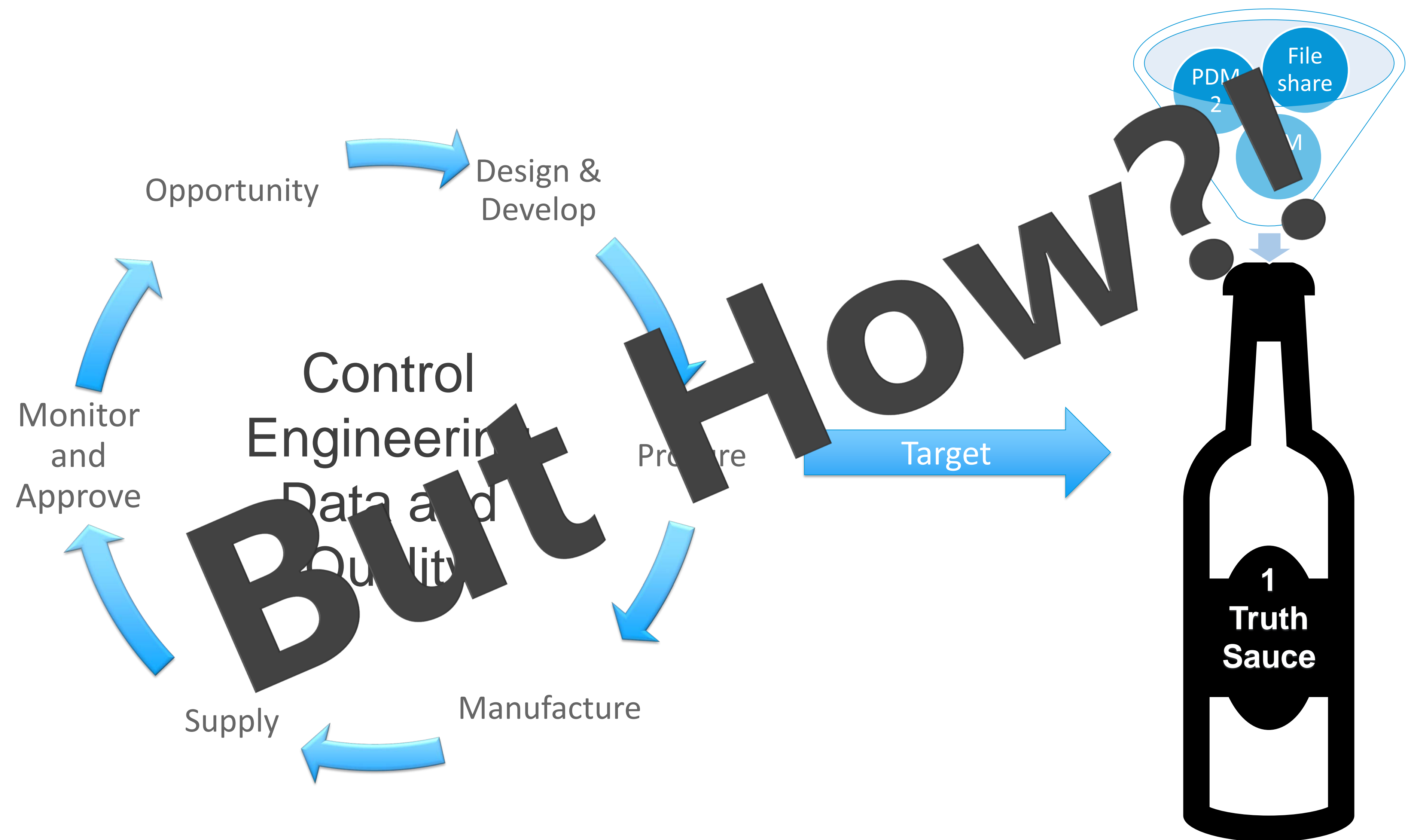
Driven by IMI CEO

Moves focus to
engineering &
supporting systems

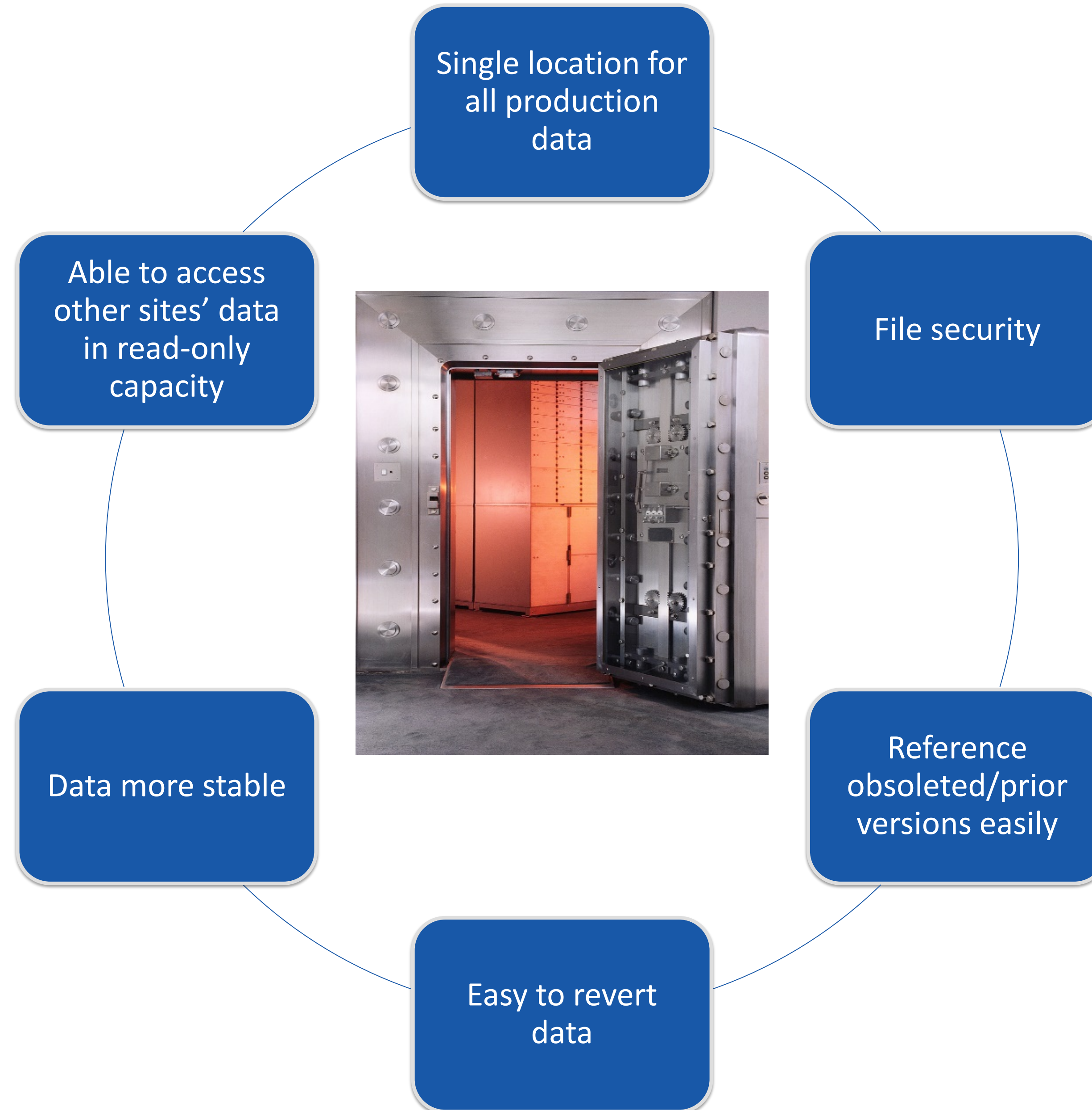
Accelerate
NPD process
& growth

- Drive Down Costs
- Improve efficiency
- Eliminate wastes

IMI Goals & Vision - Control and Management



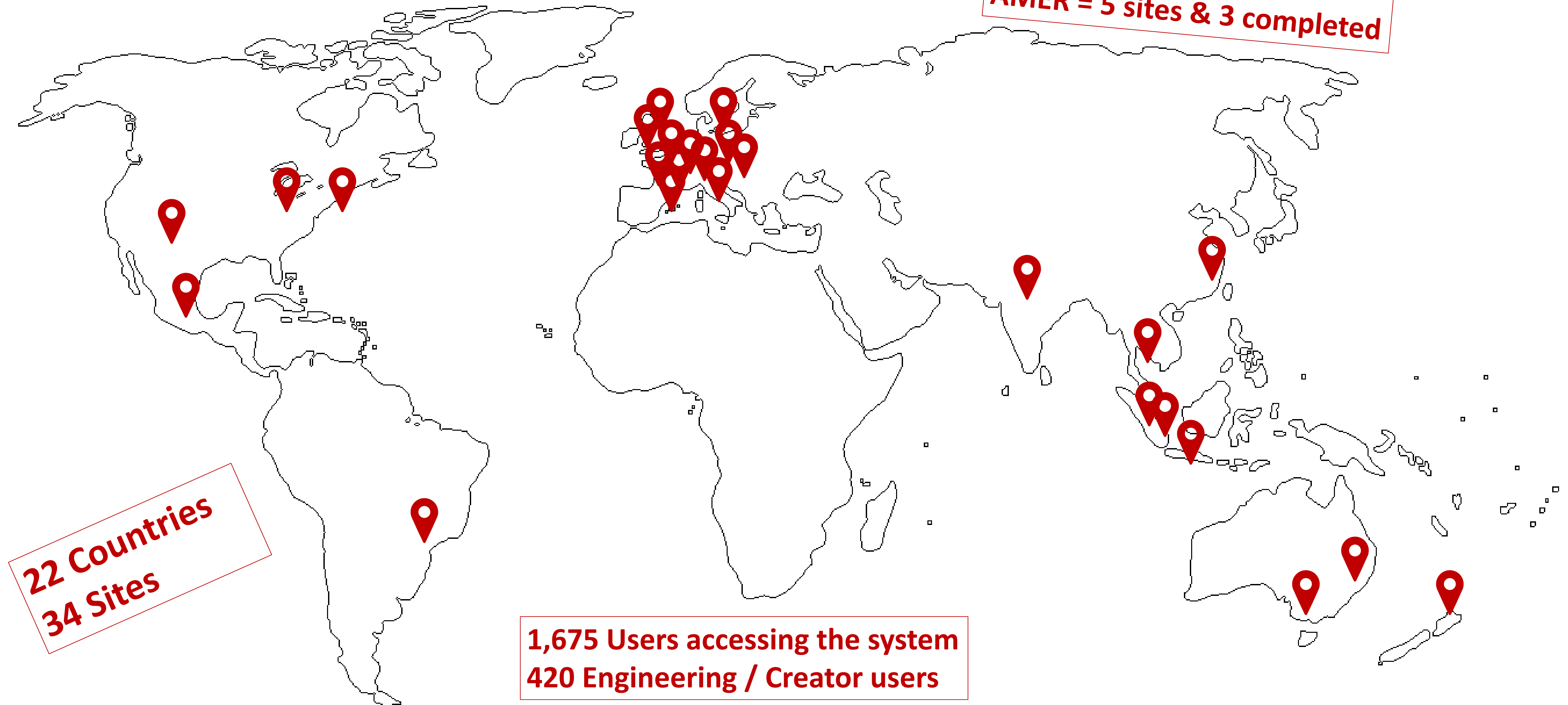
The Vault!



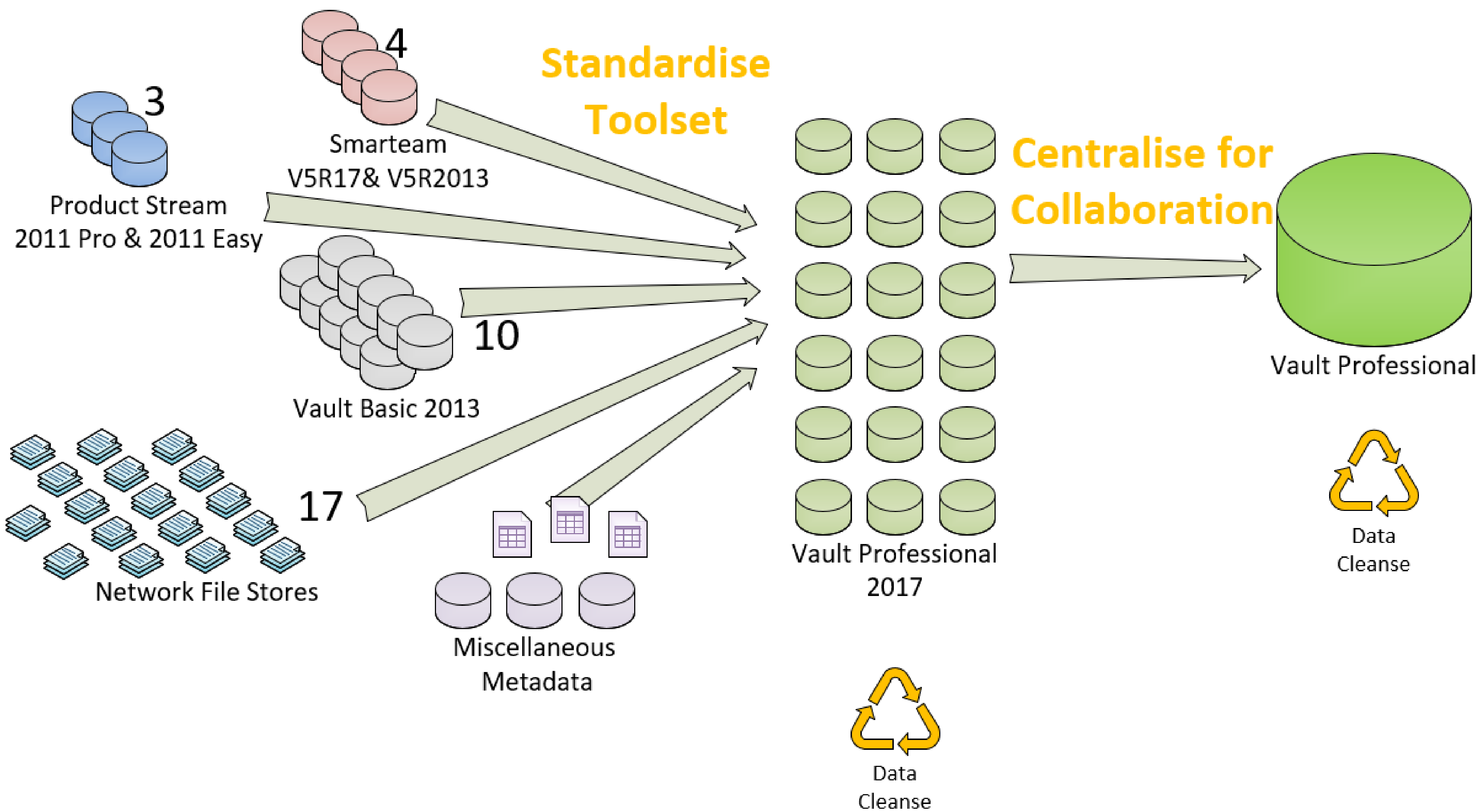
OK- so what is a Vault?

- Vault is a product data management tool
- Handles the management and publication of product data
- Capable of maintaining drawings, models, assemblies with links to metadata & other related libraries
- Allows all stakeholders and customers of a process or product to have easy access to the most up-to-date information

The Global Implementation



Technical Overview



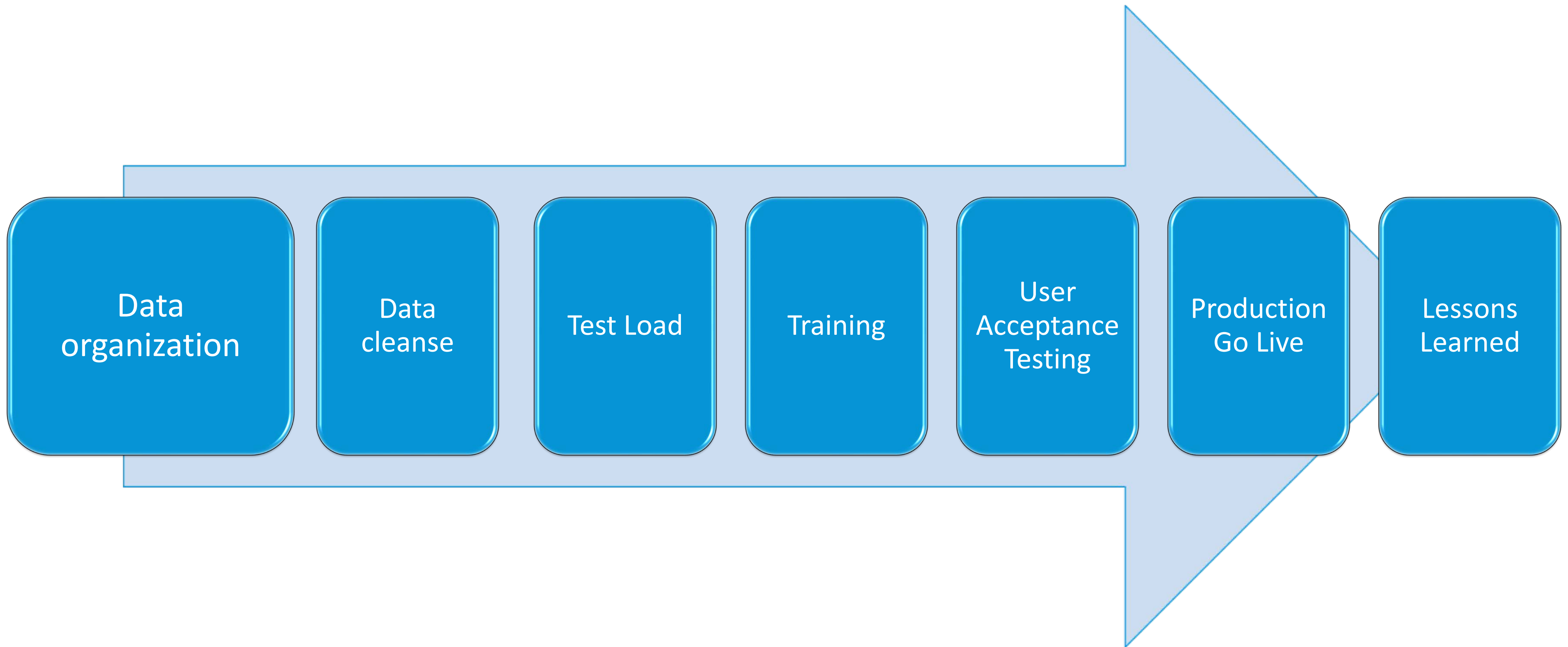
What did this mean for Farmington?

- Transition from Windows file explorer
- Migrate data from various network locations to one secure location
 - Includes all documentation files i.e. work instructions, SOPs, etc.
 - Mastercam, Solidworks, Creo files
 - AutoCAD & Inventor files
- Upgrade software to 2017 edition



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Vault Implementation Process



Tip #1: Ask Questions!



Examples

How do the lifecycle state changes work?

Does Vault play nicely with non-CAD files? Other CAD files?

How do I distinguish between different file types? Do they all process the same way?

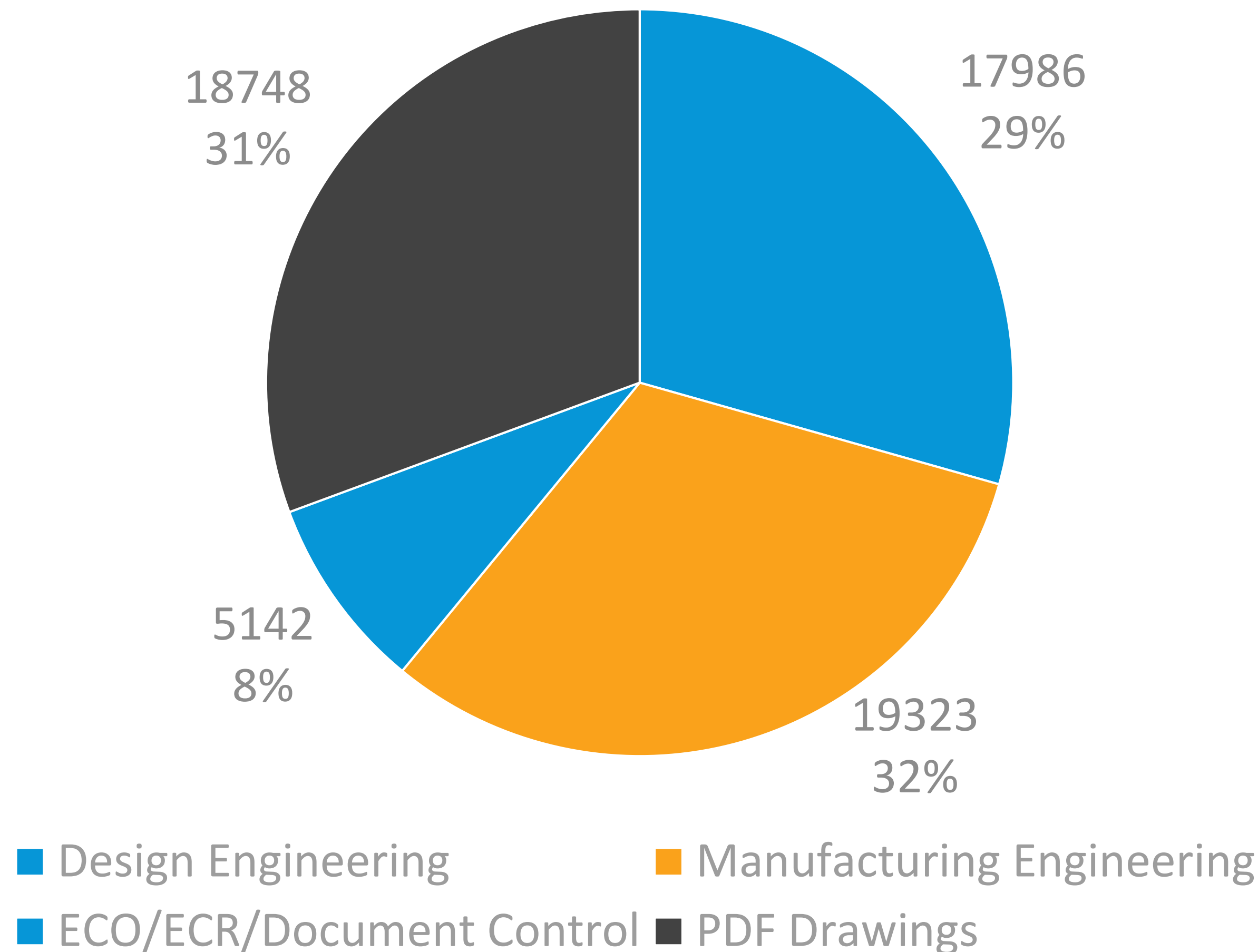
How do non-CAD users access files?

How do I send files to my customers and suppliers?

What does “data replication” mean and why does that matter?

Data Organization

Files Migrated by Department



- Meet with interdepartmental representatives to discuss pros vs. cons of transitioning their department
- Define scope of project
- Develop realistic timeline (if possible)

Tip #2: Matrix Calls

Autodesk 2017 Farmington Implementation

Division: IMI Precision Engineering

Rev 01

Chairman: Kevin Curtin **Date:** 25th July 2017

Farmington Project team: Tim Gladdy, Brian Cripps, Lauren Drotar, Josh Denison, Keith Robitaille

Global Project Team: Rüdiger Rauleder, Vaclav Oleksik, John Barton, Maik Fiedler, Chris Patient, Jeff Anders,

Copied for information: Massimo Grassi, Peter Varwijk, Ryan Schroeder, Andrew Taylor, Julie Minnell, Chris Prince, Frank Laudato

Project Objective: To implement Autodesk 2017 in IMI Farmington by 13th October 2017, including the Inventor CAD software and Vault PDM.

Next meeting: **Tuesday 8th August 2017 at 09:30 EST – Blue Jeans Meeting:**
The meeting will commence promptly at 09:30 – please would the Farmington Project Team arrive in time and with a copy of the matrix.

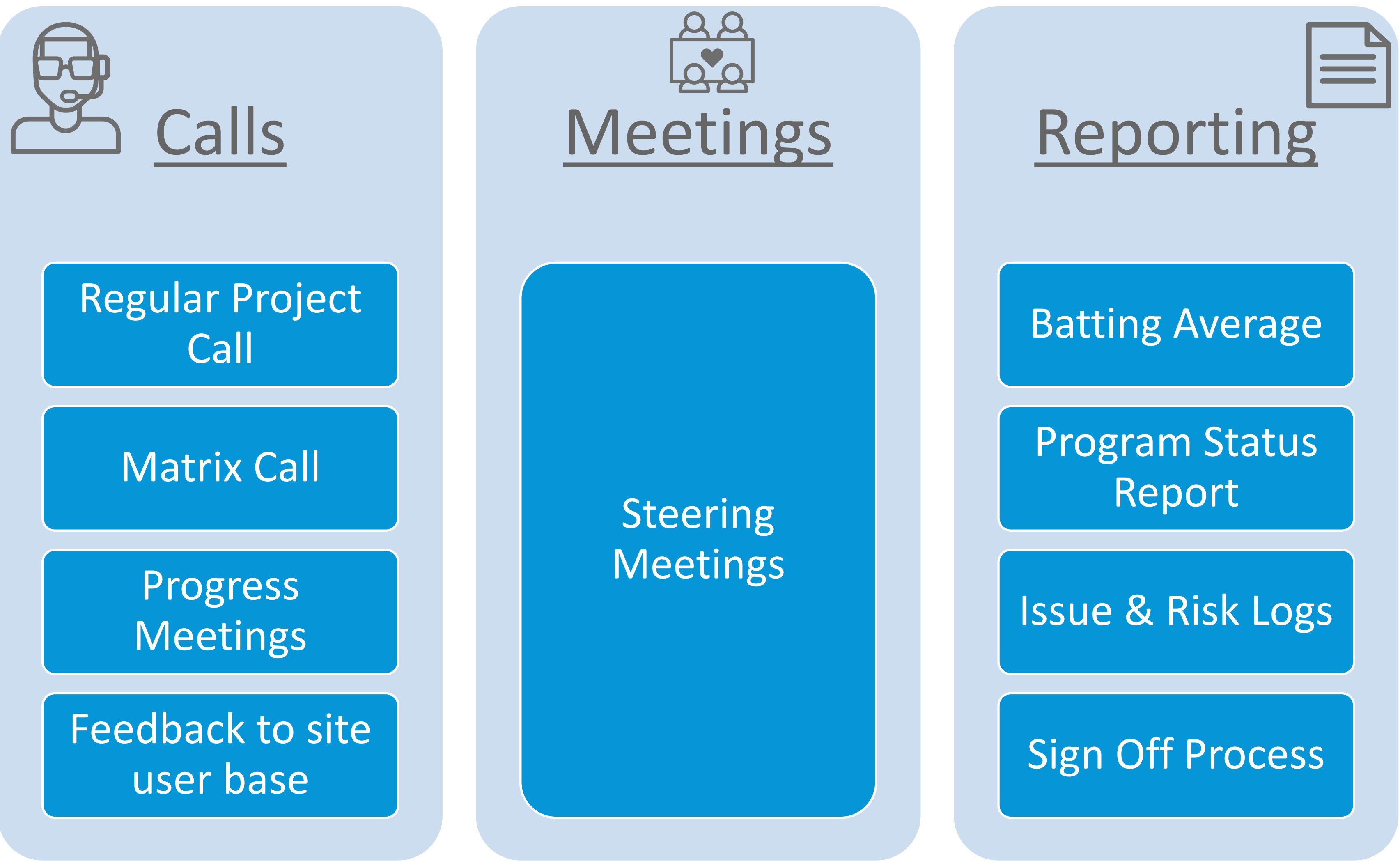
Blue Jeans meeting details:
 Meeting ID = 523221482
 Participant passcode =

	Project team	Who	Date		Divisional / Functional support	Who	Date		Approvals	Who	Date
Farmington implementation											
1. High Level Plan & Team Assignment											
1	Assign Solution Centre Lead	TG	DONE	2	Nomination of Local project team	KC	DONE				
3	Review existing data structure and agree data to be migrated	TG	DONE								
4	Write Scope document for implementation	TG	DONE	5	Review scope and agree	KC	29 Jul				
6	Project plan for implementation of Autodesk 2017	TG	DONE	7	Agree Project Plan	KC	31 Jul	8	Agree team, proposal and timetable	FL	7 Aug
a. Inventor 2017 User Upgrade Training											
1	Define training program contents	LD	DONE								
2	User training plan complete	LD	31 Jul					3	Approve training plan	FL	7 Aug
4	Start Inventor training	LD	21 Aug								
5	Complete Inventor training	LD	24 Aug								

Autodesk Farmington implementation matrix rev 01.docx

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Program & Project Regular Cadence



Tip #3: Data Cleanse

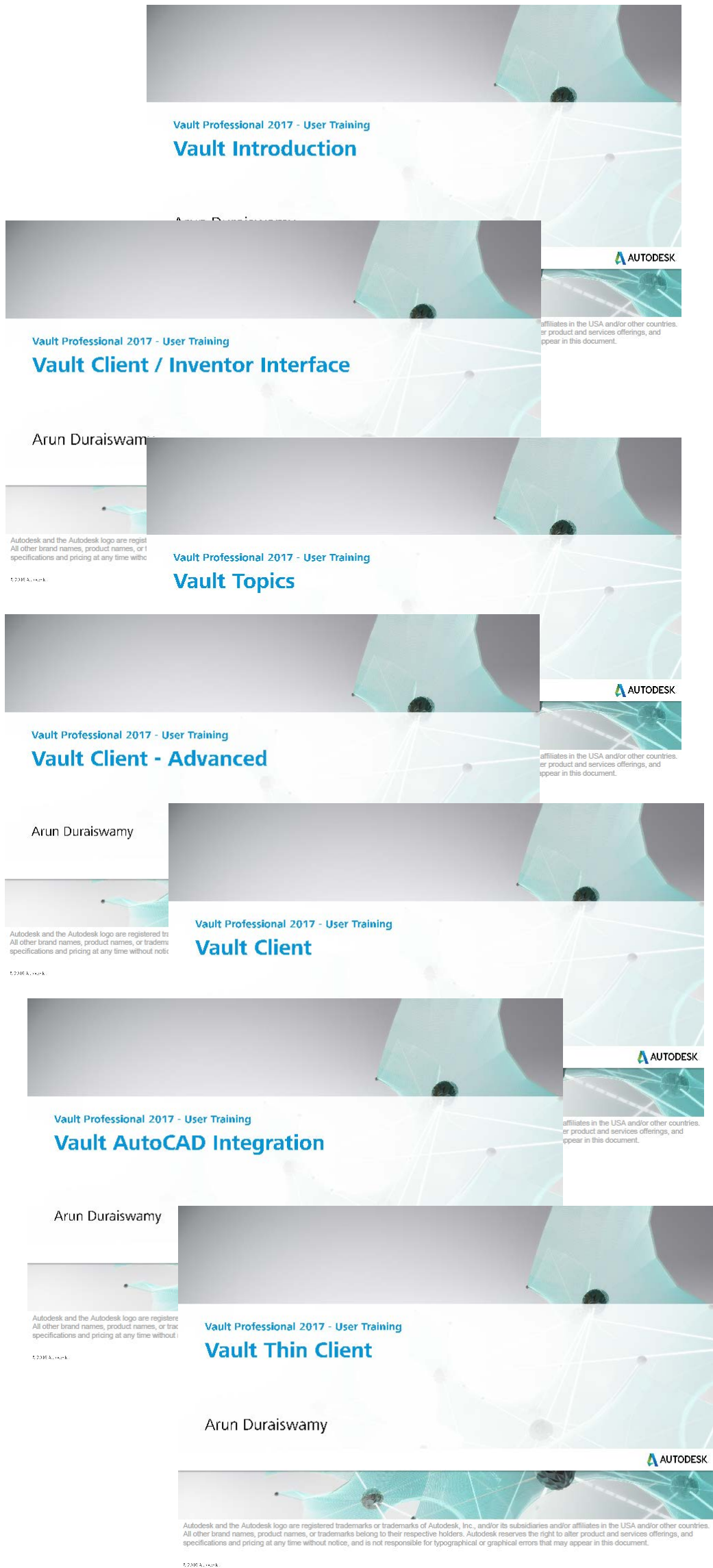
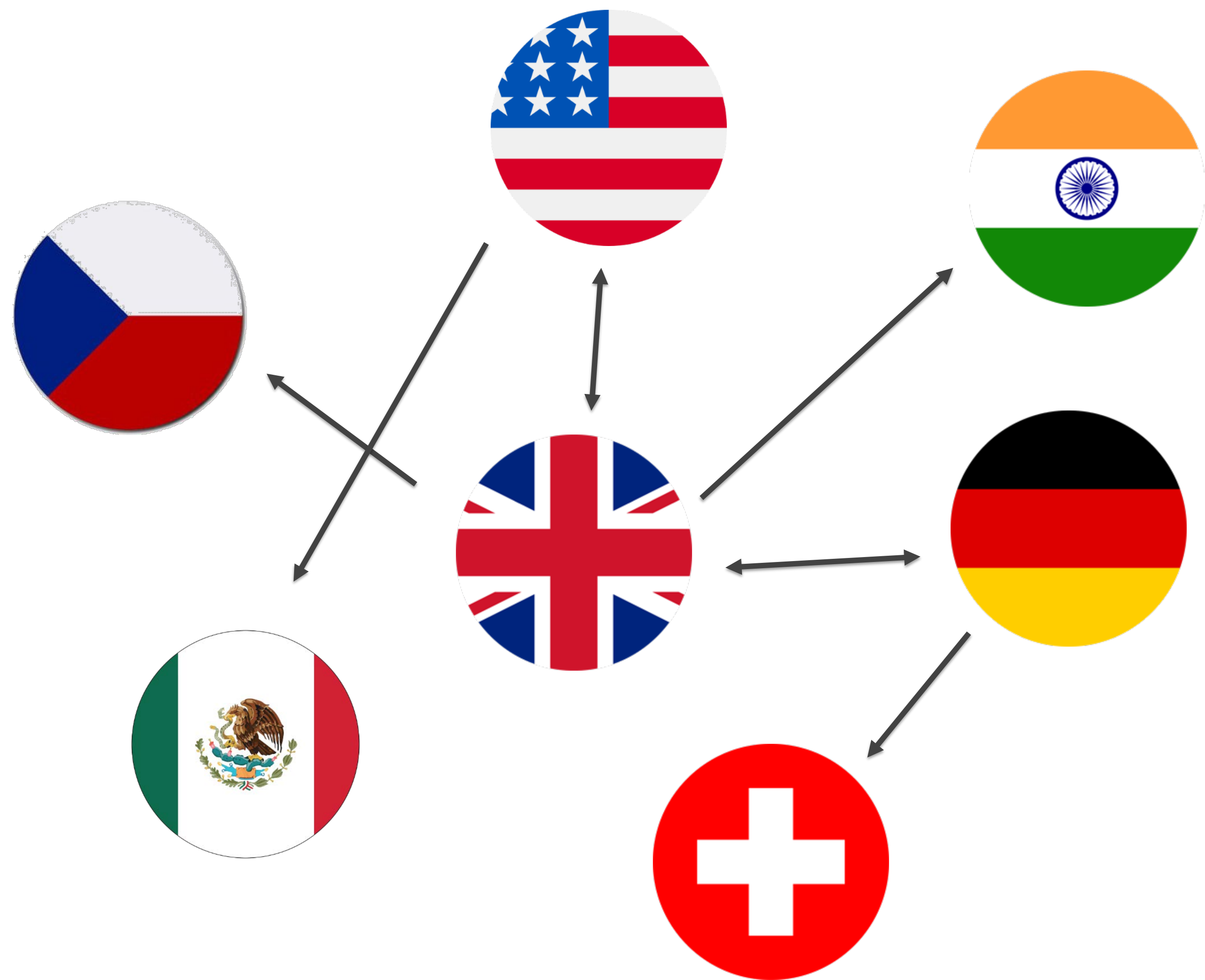
- 1. Sort through all data prior to migrating to Vault
 - Delete obviously redundant/duplicate files
 - Repair any broken links to assemblies, etc.
- 2. Test load data to test Vault prior to production migration
 - Easily detect # of duplicate or broken files
- 3. Clean your data again



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-----Task Summary-----
This task has processed 13711 file(s) out of which 2331 file(s) failed.
Errors encountered as follows:
Spool Cap 2-14-14.ipt in S:\Released\Ay 2-17-14 With New Spool Plug.iam--File does not exist.
S:\Released\Ay 2-17-14 With New Spool Plug.iam--File has unresolved references.
Spool Valve Test Block.ipt in S:\Released\Spool Valve Test Block Ay.iam--File does not exist.
S:\Released\Spool Valve Test Block Ay.iam--File has unresolved references.
MICROSOL MTG SCREW.ipt in S:\Released\5X1039.iam--File does not exist.
S:\Released\5X1039.iam--File has unresolved references.
S:\Released\5X1039-TAB.idw--File has unresolved references.
NE-PBA0028-1x.iam in S:\Released\NE-PBA0028-1x.iam--File does not exist.
S:\Released\NE-PBA0028-1x.iam--File has unresolved references.
Free-Models.iam in S:\Released\mounting holes for PCB3.iam--File does not exist.
LOGO__.iam in S:\Released\mounting holes for PCB3.iam--File does not exist.
MOD_BOX__.iam in S:\Released\mounting holes for PCB3.iam--File does not exist.
J2.iam in S:\Released\mounting holes for PCB3.iam--File does not exist.
J1.iam in S:\Released\mounting holes for PCB3.iam--File does not exist.
Board.ipt in S:\Released\mounting holes for PCB3.iam--File does not exist.
S:\Released\mounting holes for PCB3.iam--File has unresolved references.
PA-2WS2.iam in S:\Released\241113-12vdc-CDE.iam--File does not exist.
S:\Released\241113-12vdc-CDE.iam--File has unresolved references.
S:\Released\241113-12vdc-CDE.idw--File has unresolved references.
S:\Prototype\2P2858 (mensor)\2P2858.iam--File rebuild failed.
S:\Released\0452-2316-0001.iam--File has unresolved references.
S:\Released\3X801.iam--File has unresolved references.
S:\Released\3X801-2.idw--File has unresolved references.
S:\Released\3X801-1.idw--File has unresolved references.
S:\Released\G241311-02.iam--File has unresolved references.

Tip #4: Standardised Training



Don't forget about the ThinClient!

Organizing a system file transition to Vault is a huge undertaking- don't leave your
“customers” out of that plan!

Set your coworkers up for success & everyone will succeed.

Tip# 5: Do UAT-self a Favor

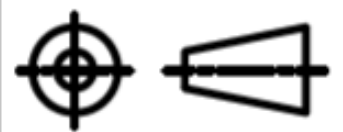
- User Acceptance Testing is most important part of data migration
- TAKE YOUR TIME!
- If Vault doesn't pass test- does not graduate to production
- Why set yourself up to fail?
- Time-consuming & frustrating but worth the time
- **Have multiple people conduct UAT independently**
 - If 2-3 people conducted this testing, we'd have a better, more efficient Vault right now
- Especially important if converting to using drawing templates that populate with iProperties

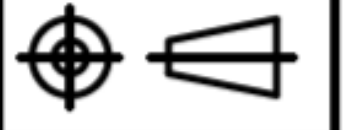


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Test Those Templates!

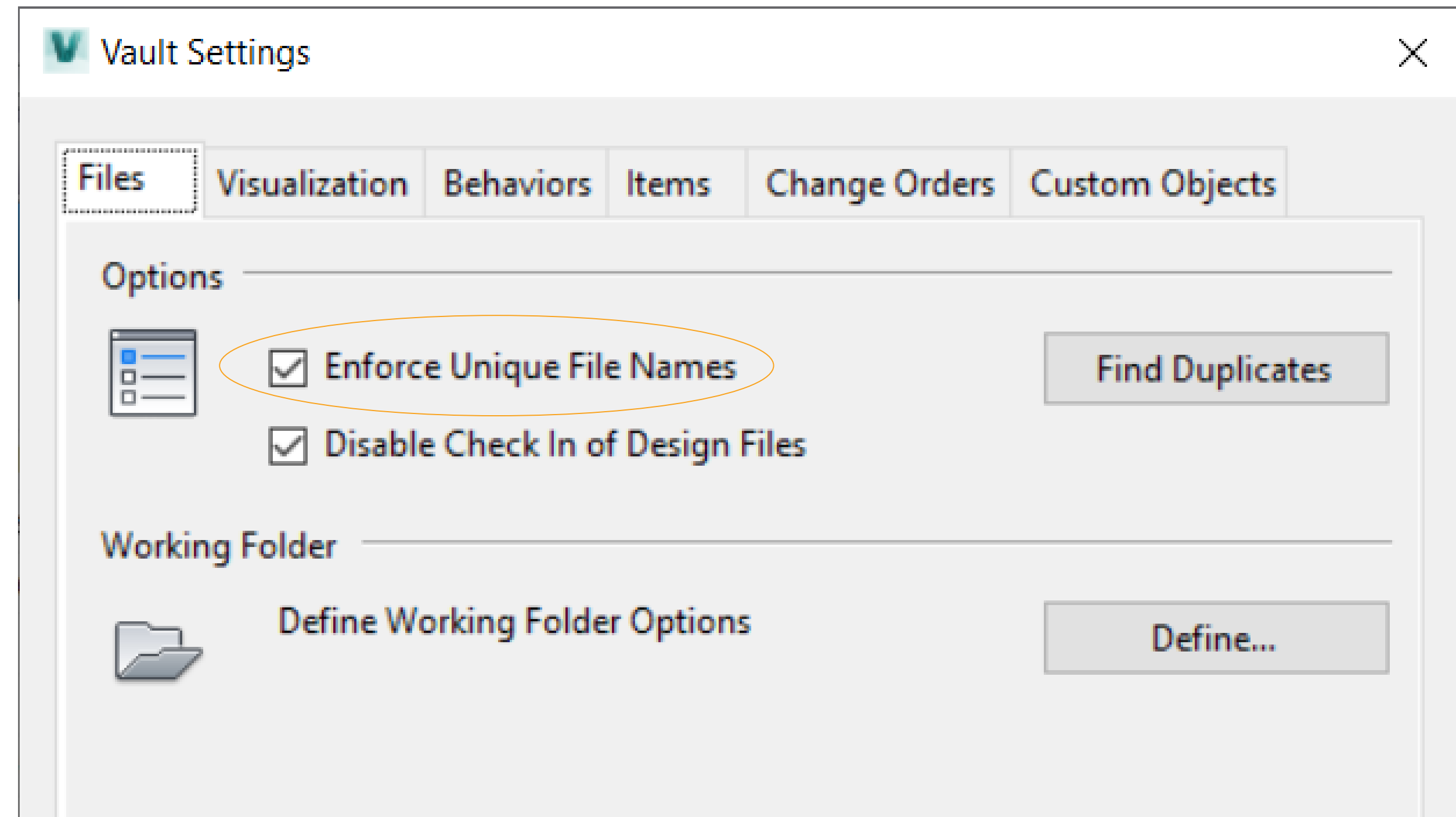
- Part of UAT testing is to check template files work properly
- Make sure your templates are EXACTLY the way you want them
- Check directional & bidirectional mappings update template blocks properly
- Create iLogic to update template if moving to iProperty/Vault property-based template blocks

DESIGNED BY:	APPROVED BY:	RELEASED BY:
DESIGNED DATE: 12/27/1899	APPROVED DATE: 12/27/1899	RELEASED DATE: 12/27/1899
3RD ANGLE PROJECTION 	DESCRIPTION: IP BOX SET	
PART NO. 0440-51170-0002		
IMIPrecision Engineering Norgren Inc 72 Spring Lane Farmington CT 06032 Tel: +1 860 677 0272 COPYRIGHT © 2017 IMI NORGREN INC.		
SCALE: A	Size: B	Sheet 1 of 3
AUTODESK INVENTOR CODE NO. 73212		REV: A

DESIGNED BY: julia.d'errico	APPROVED BY: glong	RELEASED BY: lauren.drotar
DESIGNED DATE: 8/1/2018	APPROVED DATE: 9/24/201	RELEASED DATE: 9/25/2019
3RD ANGLE PROJECTION 	DESCRIPTION: DY HOLE & BER	
PART NO. 69-0001		
IMIPrecision Engineering Norgren Inc 72 Spring Lane Farmington CT 06032 Tel: +1 860 677 0272 COPYRIGHT © IMI NORGREN INC.		
SCALE: 2	Sheet 1 of 1	REV: A
AUTODESK INVENTOR CODE NO. 73212		

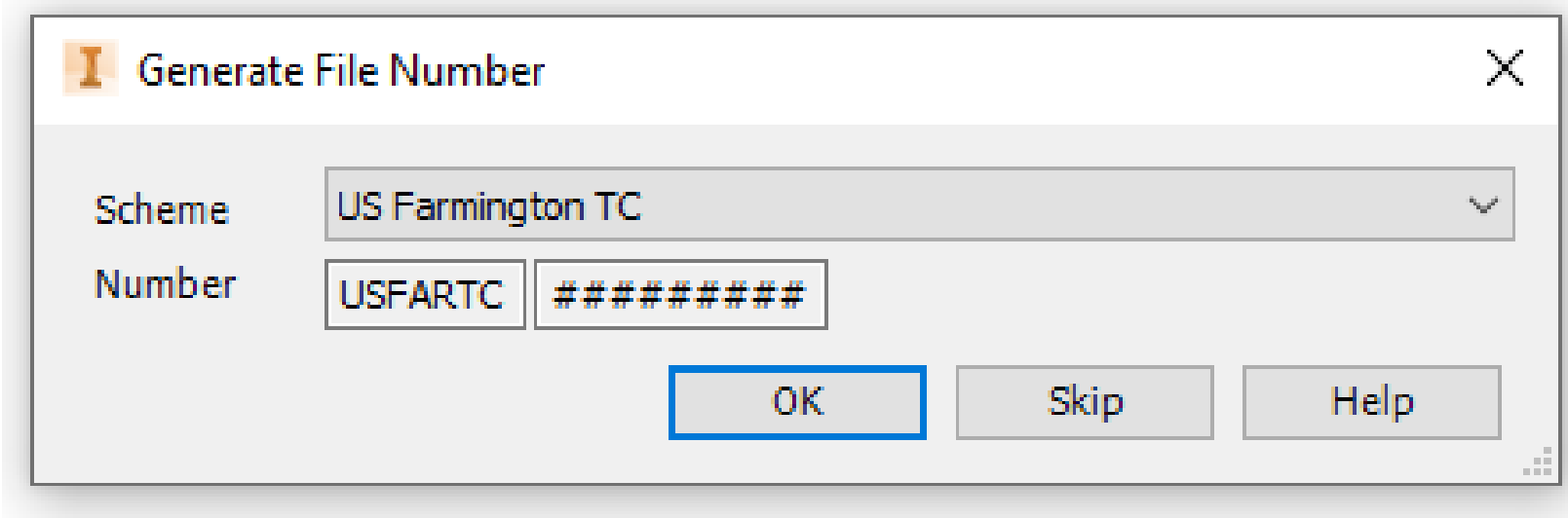
Tip #6: Make Eliminating Duplicates a Priority

- Major headache when trying to check in files
- Extremely useful feature
 - Eliminates generic file name i.e. “plate.ipt”
 - Forces users to think about how/what to name their files
- 2+ years later: 1573 duplicate files remain 😞
- Set aside time between production migration & go-live to tackle



[illegible]

Auto-Generated Numbering



- Configured in Vault Administration settings
- Prevents duplicate file names *automatically*
- Can be overridden manually!
- Mini-Tip: look into renaming all files prior to Vault launch for an easy transition

Project Explorer (\$) (Search Results) (C:\Users\lauren.drotar\Vaults\USFARTC\)			
	Name	State	Revision
	USFARTC000000082.idw	Released	A
	USFARTC000000082.ipt	Released	A
	USFARTC000000082.pdf	Released	A
	USFARTC000000101.iam	Released	A
	USFARTC000000101.idw	Released	A
	USFARTC000000101.pdf	Released	A
	USFARTC000000160.idw	Released	A
	USFARTC000000160.ipt	Released	A
	USFARTC000000160.pdf	Released	A
	USFARTC000000161.idw	Released	B
	USFARTC000000161.ipt	Released	B
	USFARTC000000161.pdf	Released	B
	USFARTC000000177.ipt	Released	A
	USFARTC000000198.pdf	Released	A
	USFARTC0000001982.pdf	Released	A
	USFARTC000000218.pdf	Released	A
	USFARTC000000235.idw	Released	A
	USFARTC000000235.ipt	Released	A
	USFARTC000000235.pdf	Released	A
	USFARTC000000239.pdf	Released	A
	USFARTC000000244.ipt	Released	A
	USFARTC000000260.idw	Released	A
	USFARTC000000260.ipt	Released	A
	USFARTC000000260.pdf	Released	A
	USFARTC000000344.iam	Released	A
	USFARTC000000344.idw	Released	A
	USFARTC000000344.pdf	Released	A
	USFARTC000000344-1.ipn	Released	A
	USFARTC000000344-1.pdf	Released	A
	USFARTC000000349.iam	Released	A
	USFARTC000000349.idw	Released	A
	USFARTC000000349.pdf	Released	A
	USFARTC000000440.iam	Released	A

Tip#6: Revisions/WIP



- If transitioning from a “dumb” system->files transition as Work in Progress, Revision A
 - Big problem for any components NOT in this state
- Can’t release assemblies or drawings without all subcomponents being released
- Map back to iProperties if possible to ease transition

History	Uses	Where Used	Preview	Classification	Links
Latest		Work in Progress			
File Name		Revision	State (Historical)		
5X1087-M3.iam		A	Work in Progress		
0476-0327-0001.ipt		A	Work in Progress		
0478-0400-0003.ipt		A	Work in Progress		
0478-0401-0006.ipt		B	Released		
0481-51087-0002.iam		A	Work in Progress		

Use the AnyCAD plugin

- Allows Vault to play nicely with dozens of Autodesk and non-Autodesk programs, including:
 - MS Office
 - Creo
 - Solidworks



 **SOLIDWORKS**



creo® 6.0

Farmington Vault Summary

3 Months of
Preparation

2 Days of
Migration

~150 Thin
Client users

4 Departments

15 CAD users

60,000+ Files
Migrated

Global Summary

30

Months

2 TB

Data Migrated

3,000,000

Files Migrated

20

Sites Migrated

349

Users Trained

1,675

Users Accessing Data

7

Autodesk Partners

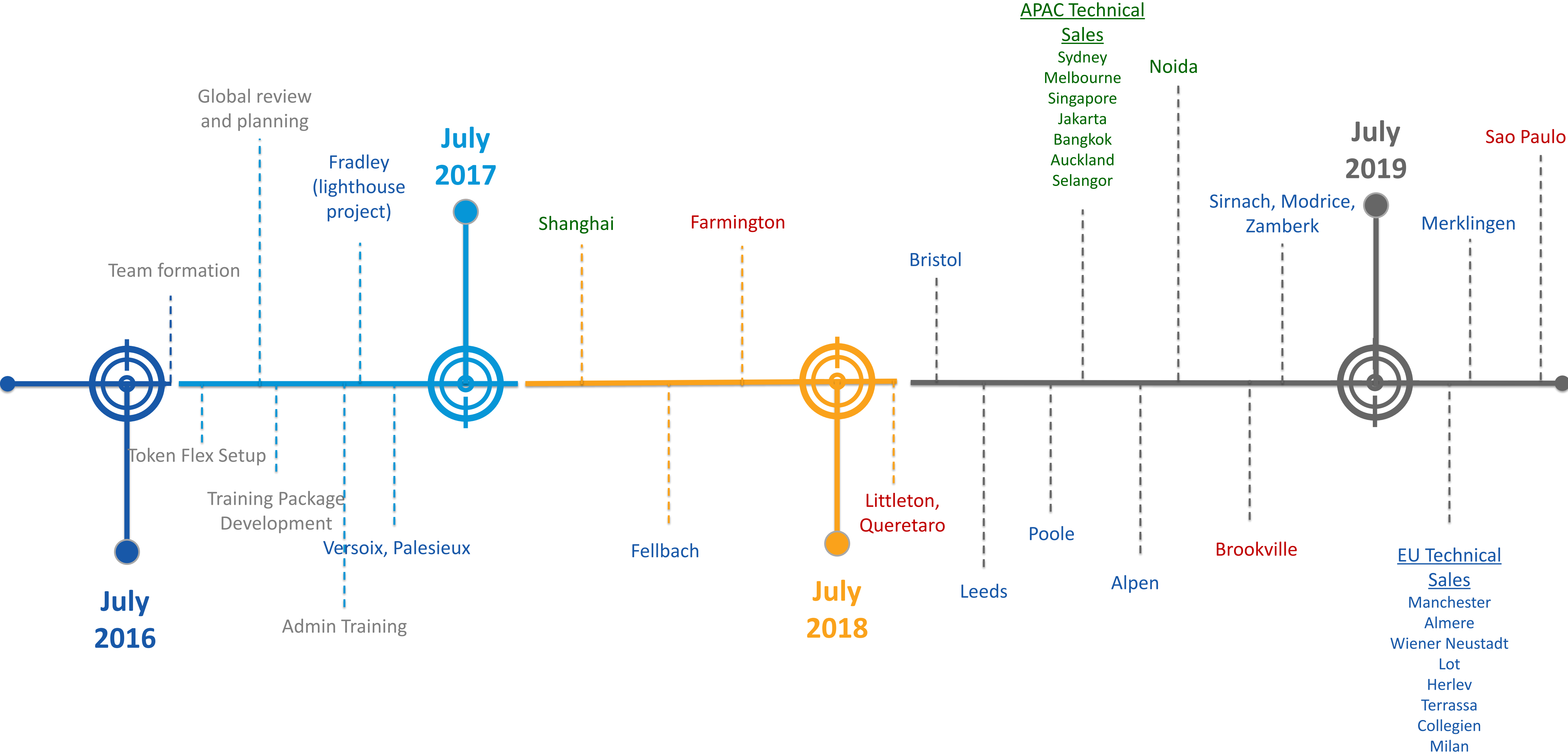
17

Projects

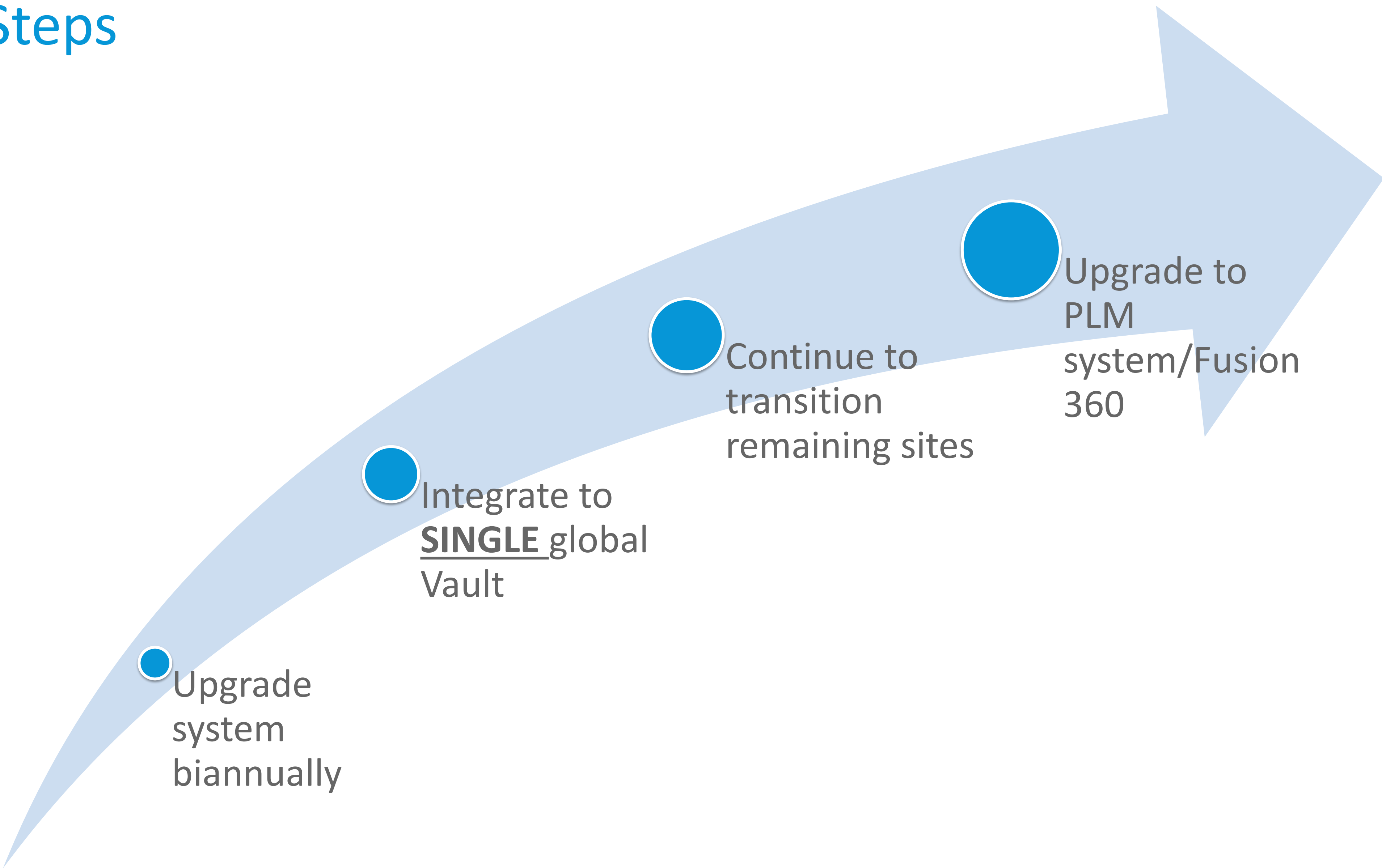
6

Languages
(Training Delivered in)

Timeline



Next Steps



In Summary

1. Ask questions!
2. Set up regular matrix calls
3. Cleanse your data, then cleanse it again
4. Standardize training
5. Do UAT-self a favor
6. Eliminate those duplicate files
7. Revision A/Work in Progress situation
8. Use the AnyCAD plug-in



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