Bentley User Group Meeting, Denmark 2018

Advance Your Design Worksharing Maturity

Bentley
Advancing Infrastructure

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Københavns Lufthavne A/S
MOE A/S
NIRAS A/S
SEAS-NVE Holding A/S
Sweco AB
EKJ Rådgivende Ingeniører AS
Metroselskabet I/S
Graintec A/S
Ramboll Group A/S
Vejdirektoratet
HOFOR A/S
Cowi A/S
Banedanmark
SNC Lavalin Inc

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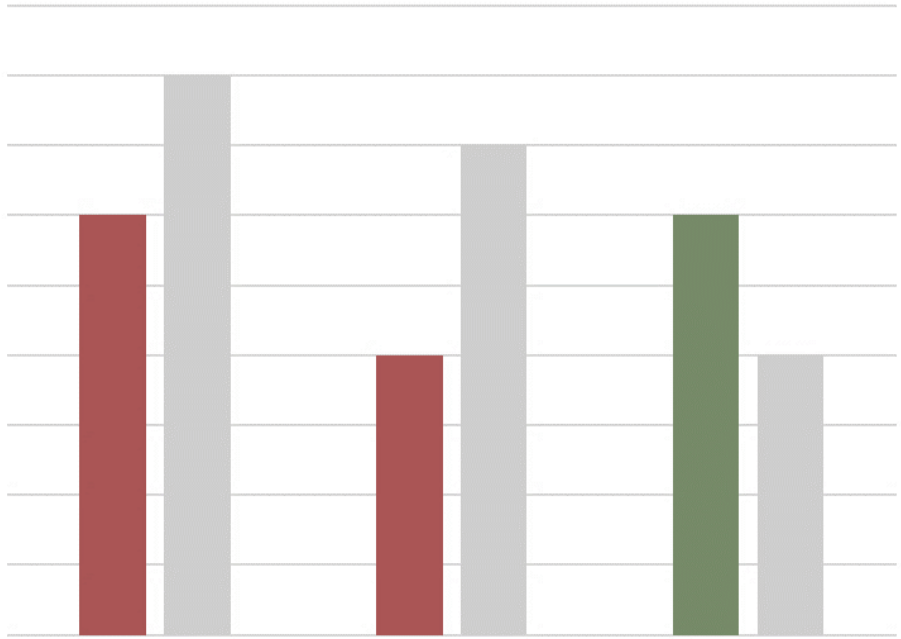
Goal is to Improve Your Bottom Line

- Are we exercising best practices?
- How do we compare with industry?
- Where and how can we improve?



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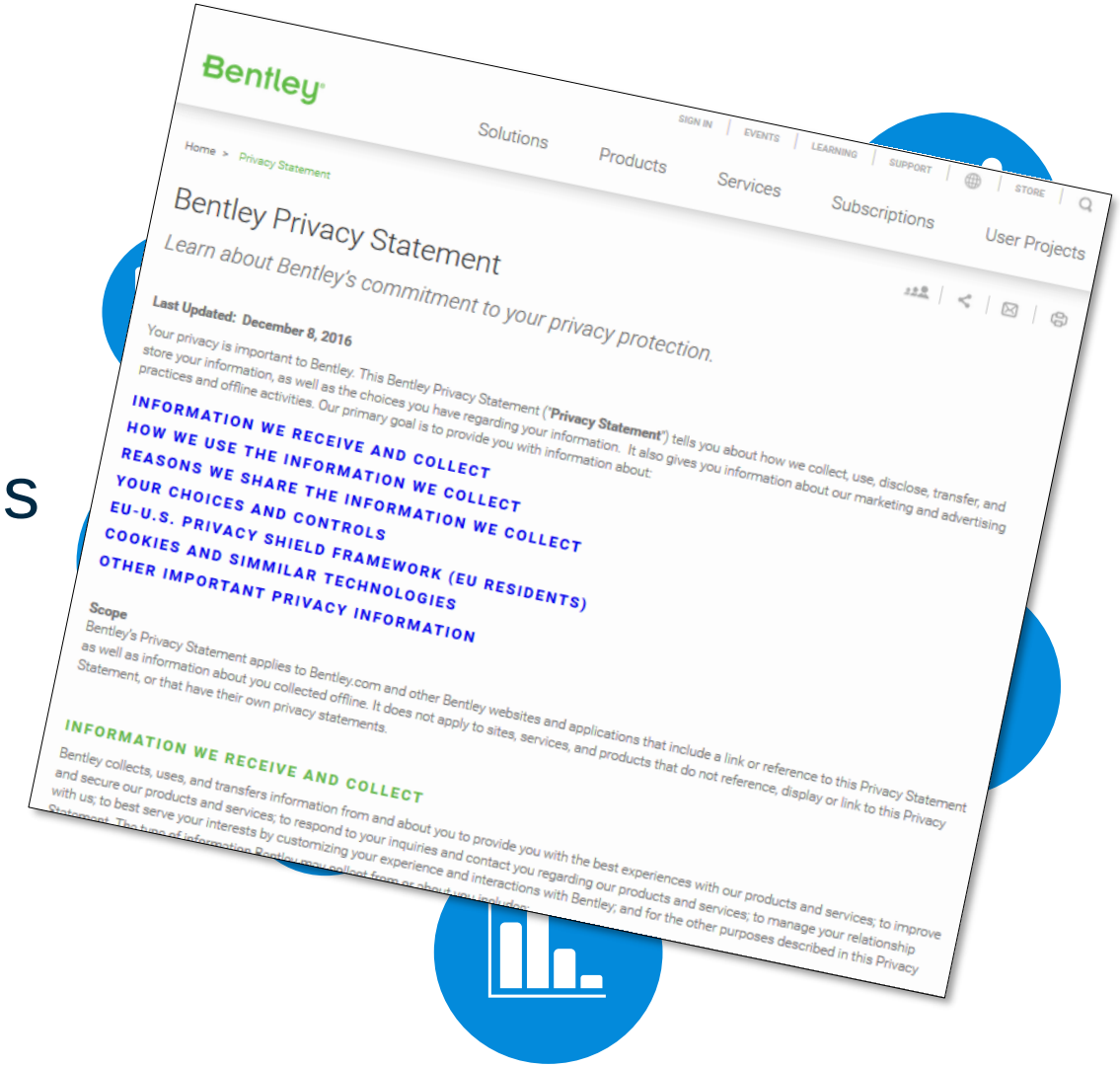
ProjectWise Usage Data as Proxy for Best Practices

- Gathered under terms of Bentley's Privacy Statement
- Used to provide, improve, and personalize our software and services
- ProjectWise usage as indicators of your design worksharing practices



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ProjectWise Usage Big Data

100+ COUNTRIES	**1M+** PROJECTS DELIVERED	**1M+** MONTHLY BUSINESS PROCESS AUTOMATIONS	**10B+** AUDIT TRAIL RECORDS

1

CONNECTED DATA ENVIRONMENT

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All ProjectWise Users Over 12 Months

2.9M+
WORKFLOW STATES

1.6M+
SUPPLY CHAIN TOUCHES

21M+
AUTOMATED DELIVERABLES

2,500+
CONNECTED DESIGN CENTERS

160,000
PROJECTS DELIVERED

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BIM Standards Provide Best Practice References

- BS 1192:2007
  - Collaborative production and sharing of accurate project information
- PAS 1192-2
  - Specific guidance for information management on BIM projects
- Many similar standards in place around the globe

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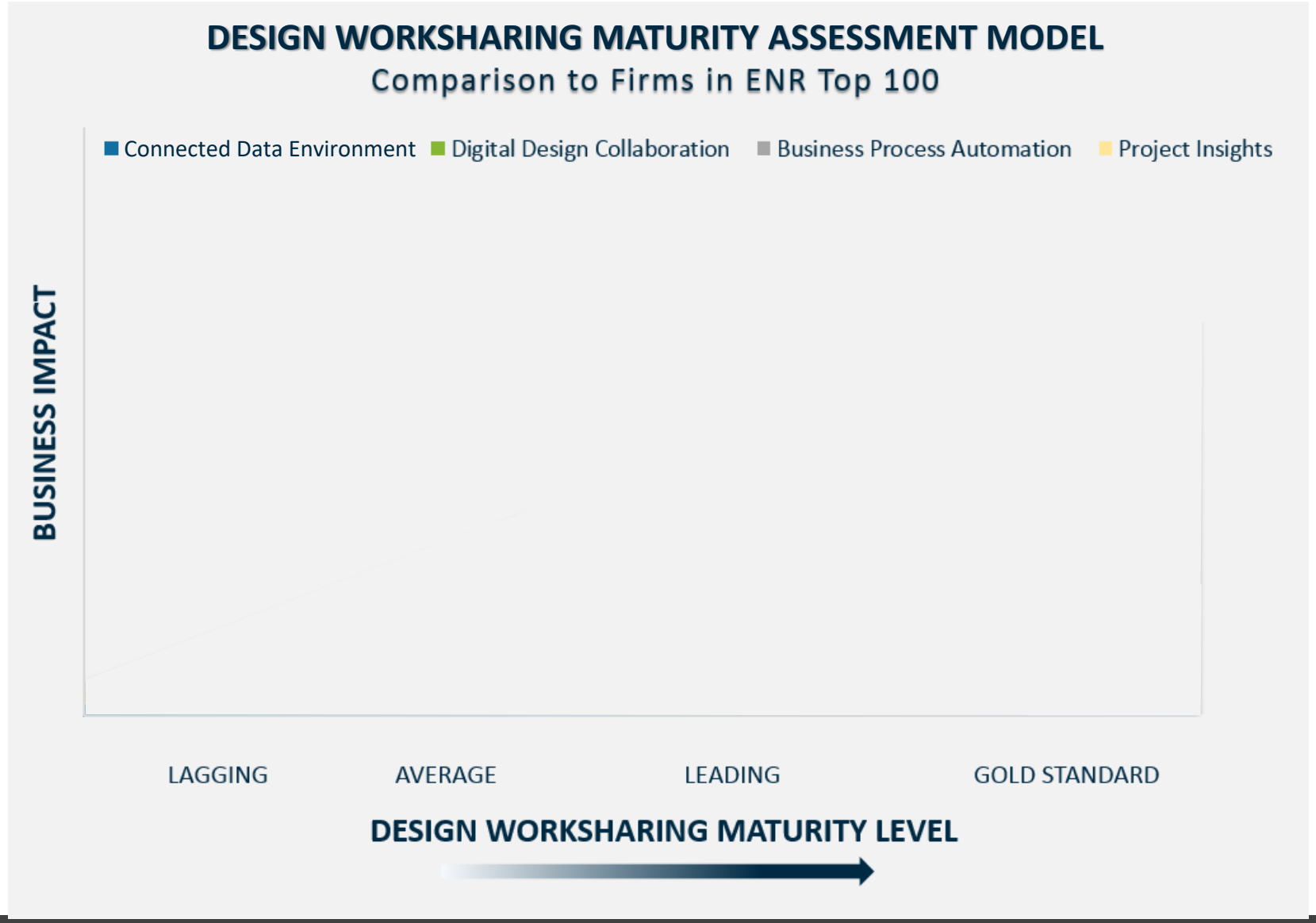
Design Worksharing Maturity Model



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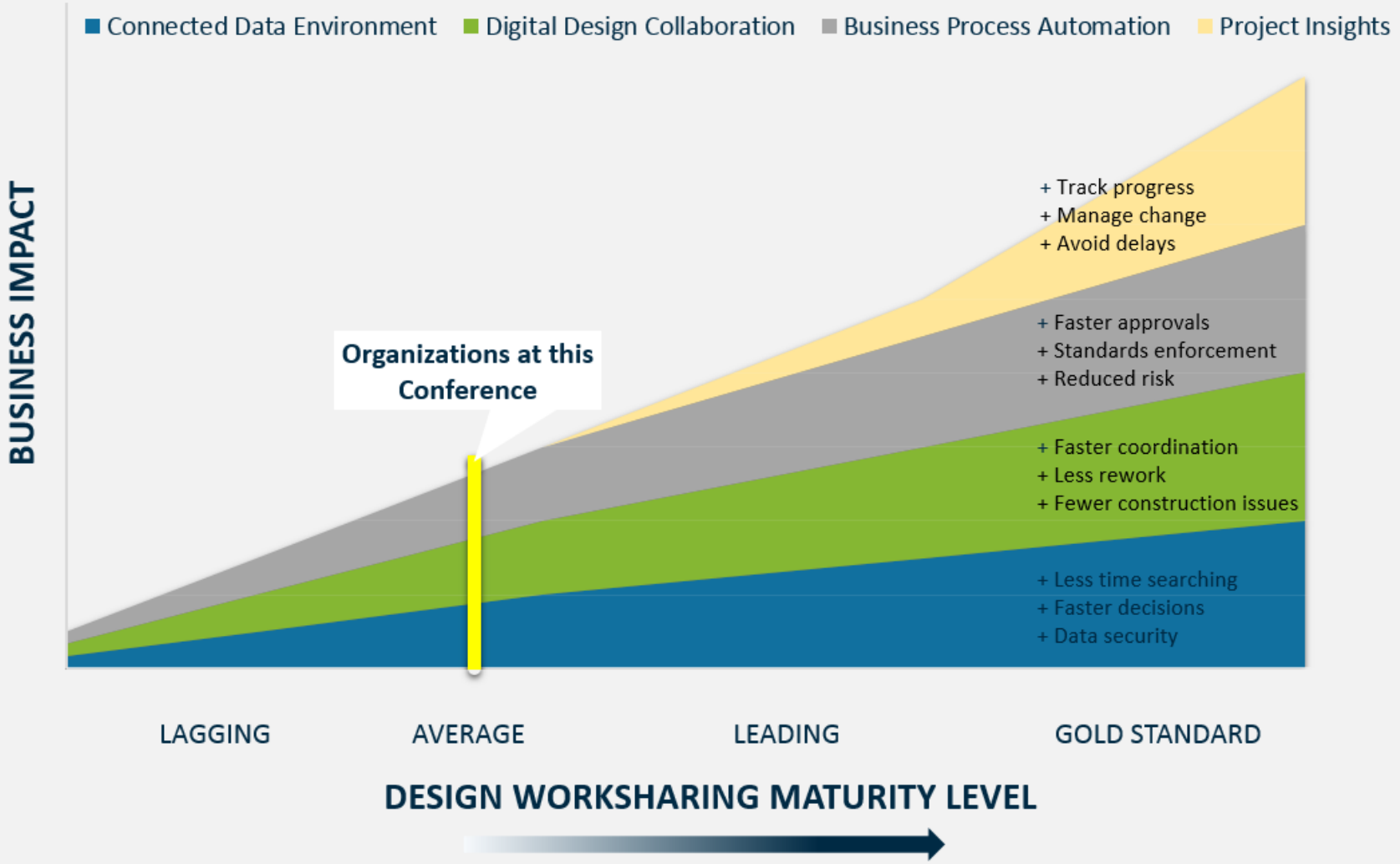
DESIGN WORKSHARING MATURITY ASSESSMENT

Comparison to Firms in ENR Top 100



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Connected Data Environment

Connected Data Environment	Top Quartile of ENR Top 100 Users	Organizations at this Conference
Quarterly ProjectWise users as percent of employees (last quarter)	32%	7%
Monthly ProjectWise users growth rate (year over year)	54%	14%
Percent of design centers connected (caching servers/number of offices)	55%	4%
Percent leveraging cloud-provisioning	32%	n/a

- Lower penetration relative to leaders – what should target be based on your demographics?
- CDE users not growing as fast as peers – how should new projects be provisioned to standardize use of the CDE?
- Underutilization of caching servers – why aren't all design centers connected?
- Use of cloud hosting – only 3 orgs are hosted!

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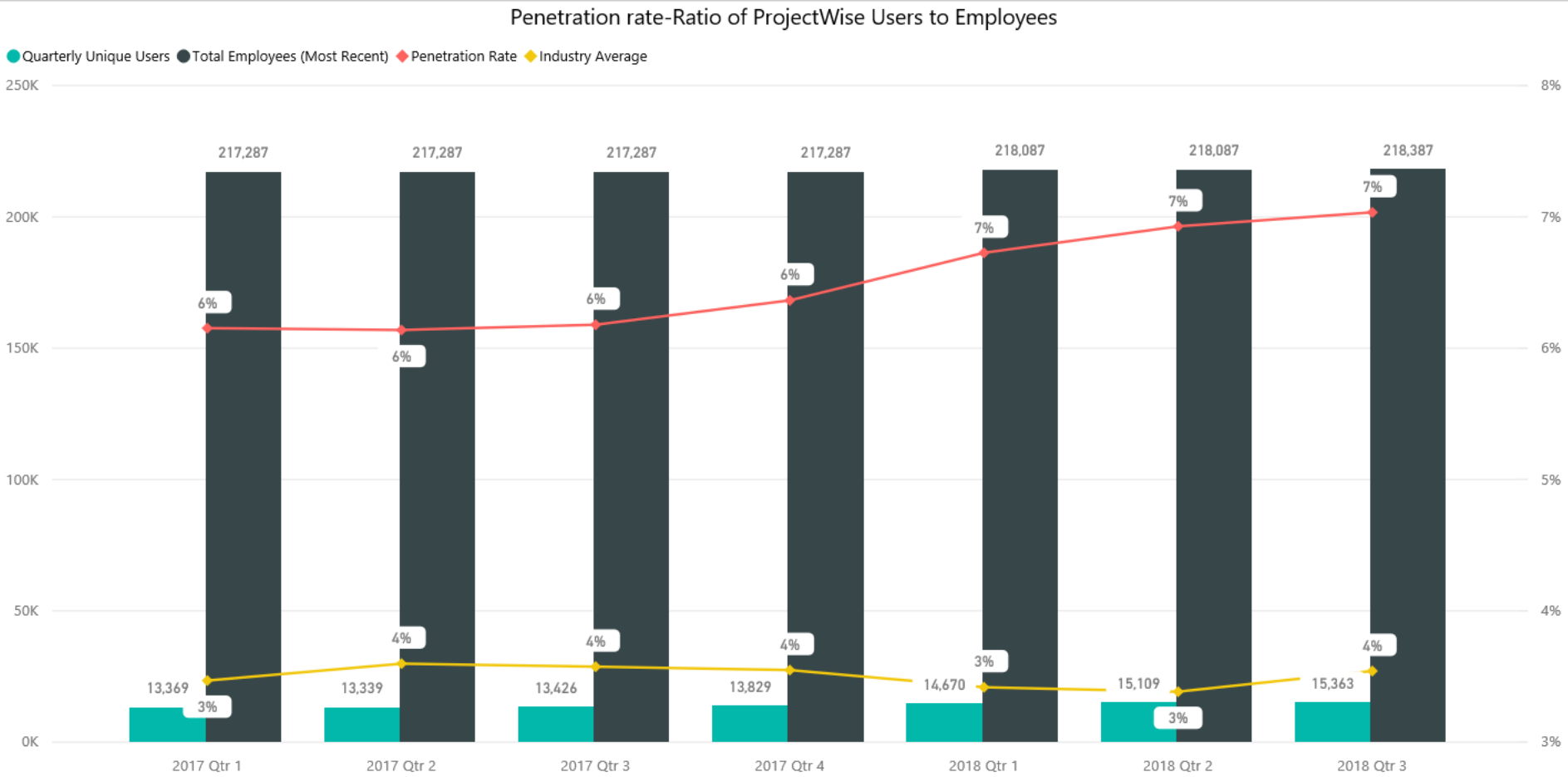
Adoption Deep Dive - Penetration Rate

See details

Contact **John Schown** if Total Employee information is blank for the selected account. Each account must be input separately and information is not currently available for all accounts.

Also contact John Schown if you believe that the employee information is incorrect.

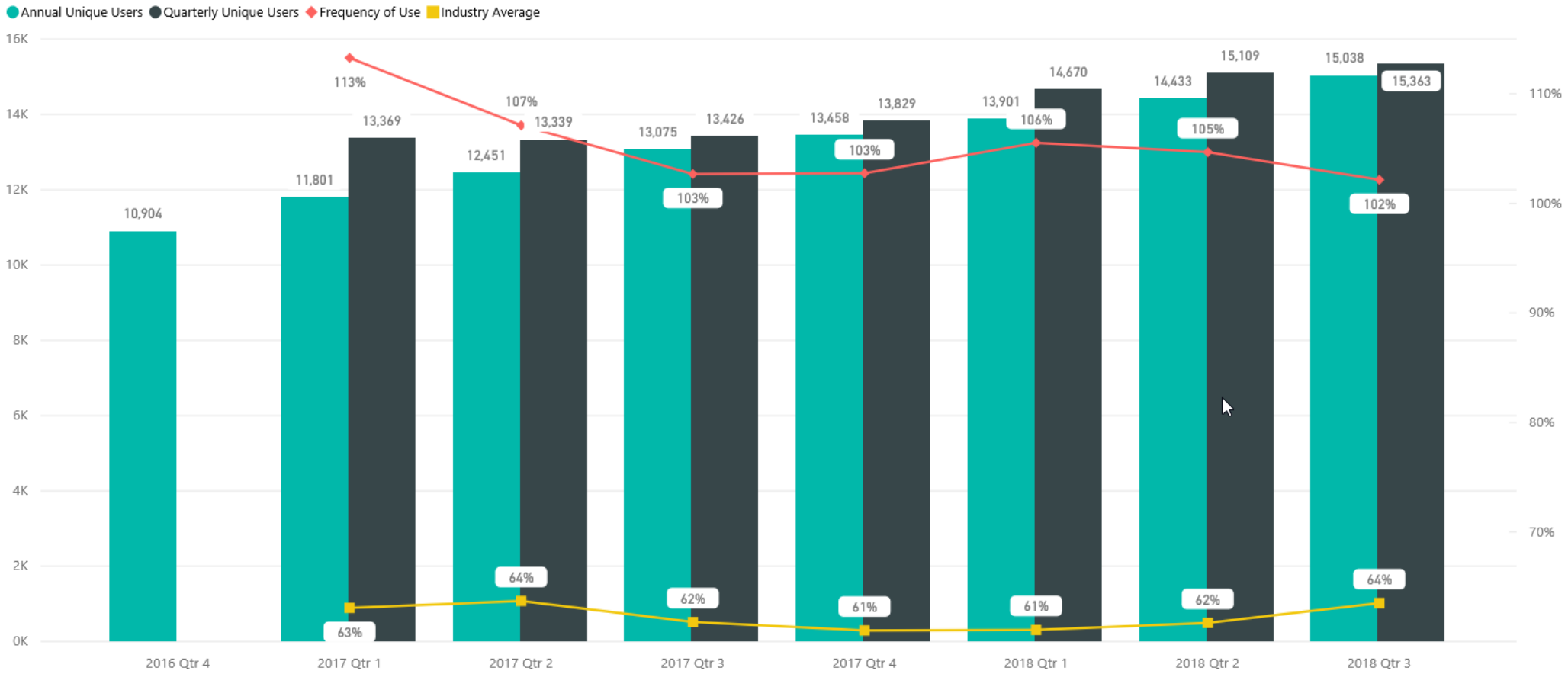


Note: This ratio provides insight into the overall level of adoption of ProjectWise within the organization. This does not take into account types/roles of employees. Employee count information is from public sources (company website, news articles, etc)

Adoption Deep Dive - Frequency of Use

See details

Frequency of Use - Ratio of Quarterly to Annual Users



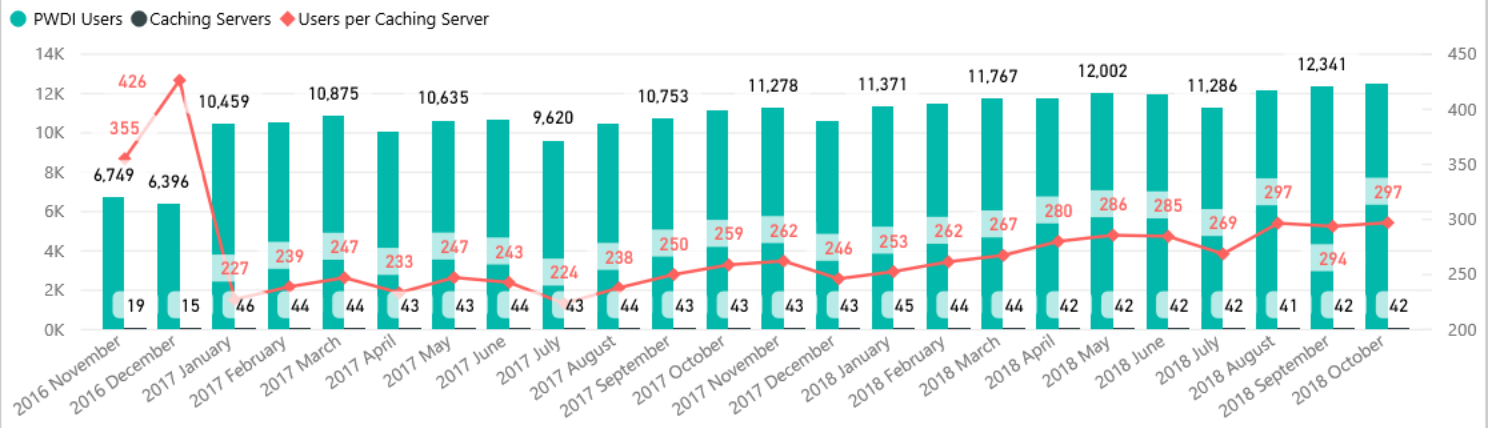
Note: This graph shows the total unique users that accessed ProjectWise over the last 365 days (4 quarters) and then compares that to the number of unique users for each quarter. This comparison provides insight into the frequency at which specific users access ProjectWise. A low ratio indicates users that access ProjectWise very in-frequently over the course of the year. This can be indicative of high employee turn-over, project specific ProjectWise usage or overall decline of ProjectWise usage in account.

Adoption Deep Dive - Caching Servers and Offices

Contact **John Schown** if Office information is blank for the selected account. Each account must be input separately and information is not currently available for all accounts.

Also contact John Schown if you believe that the Office information is incorrect.

Caching Servers



Usage (Last Month)

42

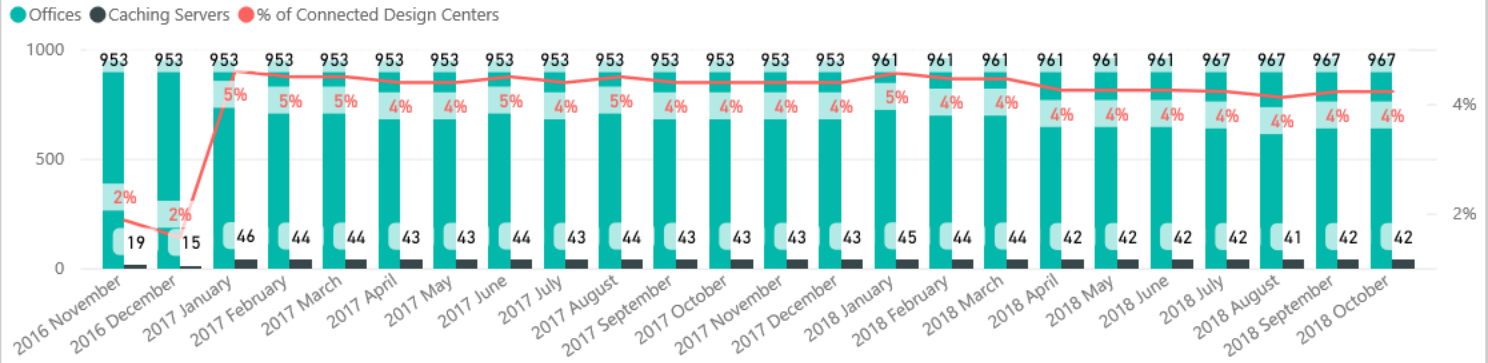
Caching Servers

297

Users per Caching Serv...

Industry Avg: 81

Offices, Caching Servers and % of Connected Design Centers by Year and Month



Recommended Caching Servers

154

Based on Users

967

Based on Offices

Note: There are two unrelated criteria shown here for the Recommended Number of Caching Servers. First is based on 1 Caching Server for every 50 ProjectWise users(monthly usage). The second is based on the documented number of Offices maintained by the Account. Not all Accounts will have information available for number of Offices. This recommendation also implies full adoption of ProjectWise in all of the Offices across the Account.

Digital Design Collaboration

Digital Design Collaboration	Top Quartile of ENR Top 100 Users	Organizations at this Conference
Number of projects created (last 12 months)	855	1,685
Bentley design applications who use ProjectWise (last quarter)	52%	55%
ProjectWise users who are designers (last quarter)	46%	67%

- Good use of project attributes – opportunity to consistently enforce CAD and BIM standards
- How are users of Bentley and non-Bentley design applications collaborating and managing data?

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Bentley Design Application Usage with ProjectWise

See details

Select Product

All

Bentley App Machines

(Blank)

Last Quarter

PW on Same Machine

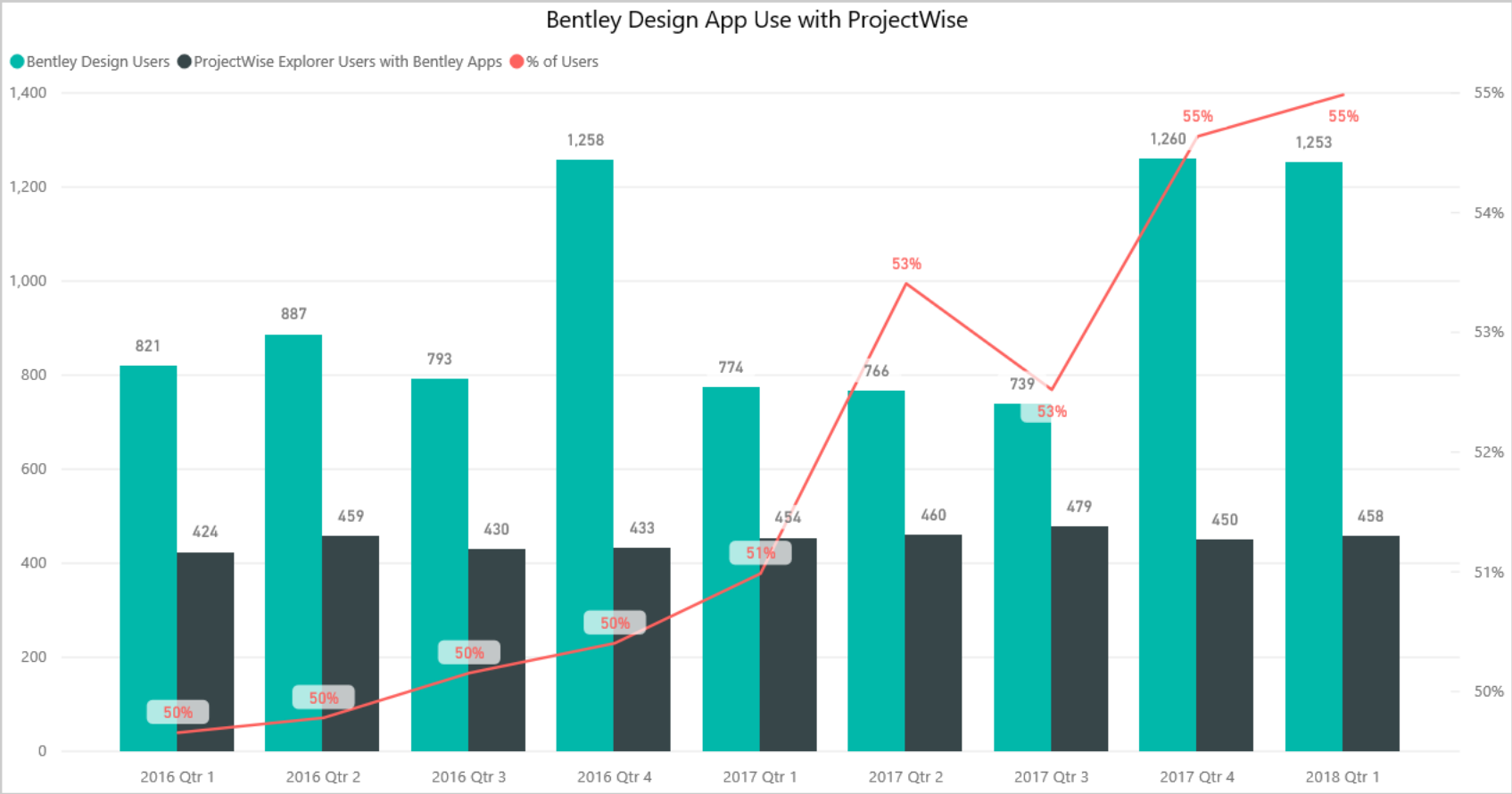
(Blank)

Last Quarter

Affinity %

(Blank)

Last Quarter



Note: This metric shows how many Bentley Design App users are also using ProjectWise Explorer. A low percentage means most Bentley Design App users are not managing their design content with ProjectWise. Shows the Total number of machines reporting usage of the Bentley Design product with the most PW Explorer usage on the same machines. Selecting a specific Bentley Design product in the Select Product filter will show the total number of machines reporting the selected product along with the number of those machines running PW Explorer. Not all Bentley Design Apps will be listed, only those with significant usage as this data is manually extracted for each product.

FILTERS

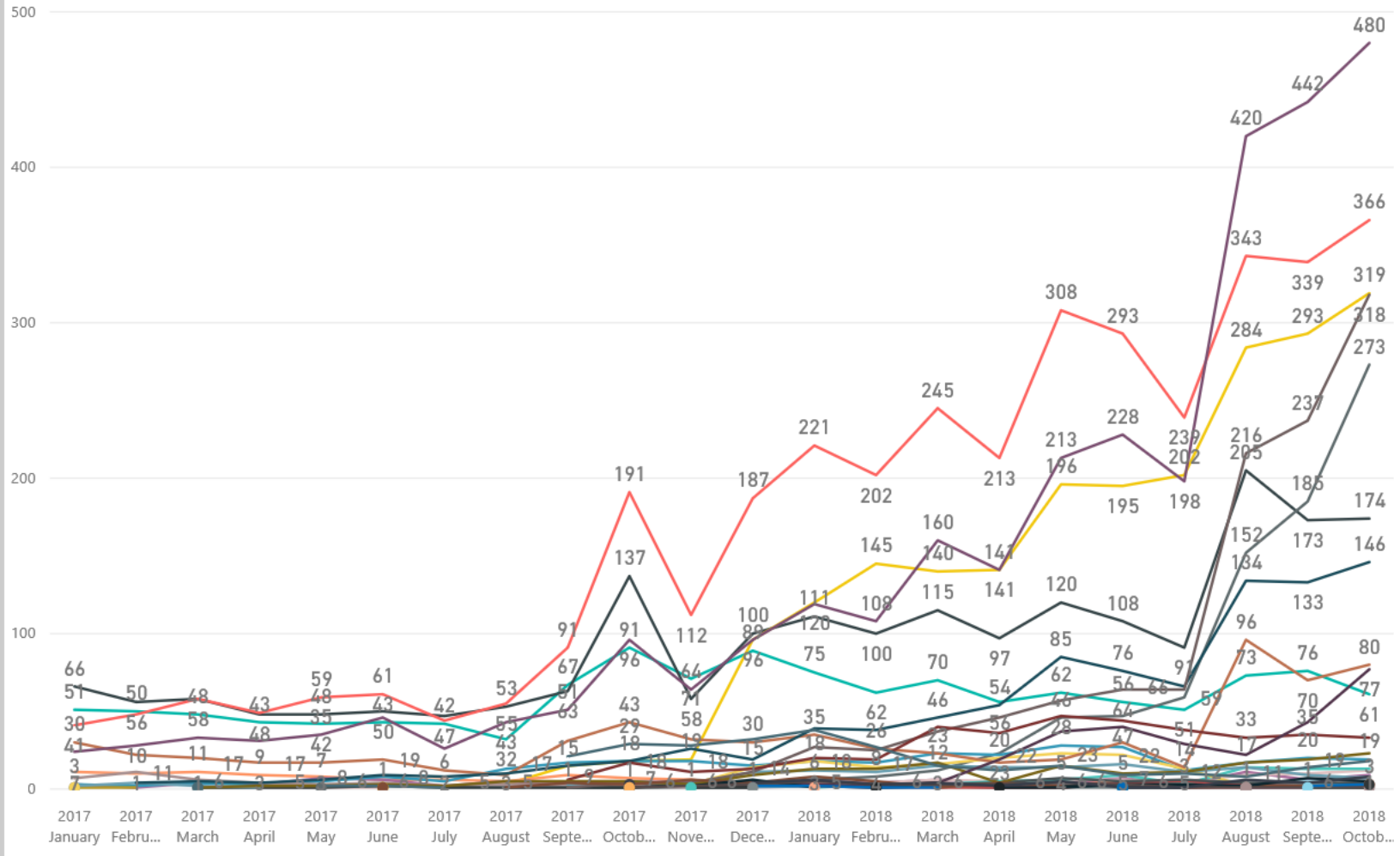
Adoption Deep Dive - Autodesk Application Usage

See details

Last Month Usage

Integrated Product	Machines
Civil 3D 2016	480
AutoCAD 2016	366
AutoCAD 2017	319
Civil 3D 2018	318
AutoCAD 2018	273
AutoCAD 2015	174
Civil 3D 2017	146
Civil 3D 2015	80
Revit 2018	77
AutoCAD 2014	61
Revit 2015	33
Revit 2016	23
AutoCAD Architecture 2016	19
Revit 2017	18
AutoCAD Architecture 2018	13
AutoCAD Architecture 2017	12
AutoCAD Architecture 2015	9
AutoCAD Map 3D 2018	8
Revit Structure 2015	8
Civil 3D 2014	7
Revit 2018 Advanced	5
Civil 3D 2013	4
AutoCAD Architecture 2014	3
AutoCAD Map 3D 2016	3
Revit 2016 Advanced	3
Revit MEP 2015	3
Revit 2017 Advanced	2
AutoCAD MEP 2015	1
AutoCAD MEP 2018	1
Civil 3D 2019	1
Revit Architecture 2015	1
Total	**1869**

Machines using Autodesk Products with ProjectWise



FILTERS

Business Process Automation

Work Process Automation	Top Quartile of ENR Top 100 Users	Organizations at this Conference
Monthly workflow users as a percent of ProjectWise users (last month)	5%	2.6%
Deliverable production automation jobs per month (last month)	14,012	28,888
Emails with document attachments (last 12 months)	2,772	2,916

- Underutilization of workflows – opportunity to reduce project delays with automated approvals
- Good use of deliverables automation – realizing significant time savings
- Too many emails with attachments – risk of unmanaged content…opportunity to increase efficiency and traceability with Deliverables Management service

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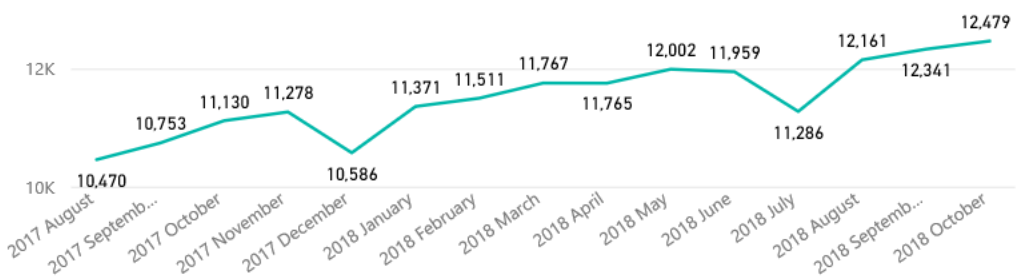
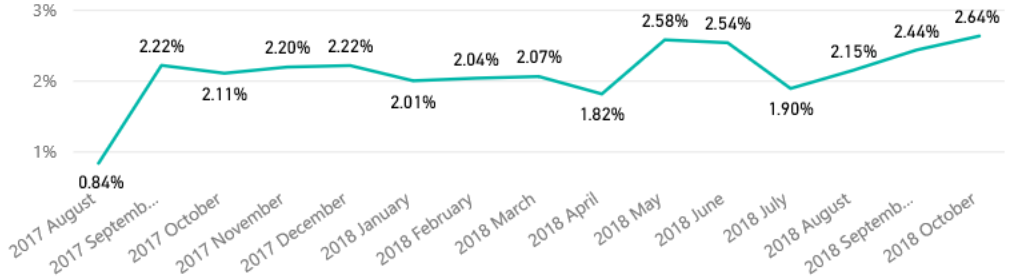
Workflow - Feature Usage Details

Can't display the visual. See details

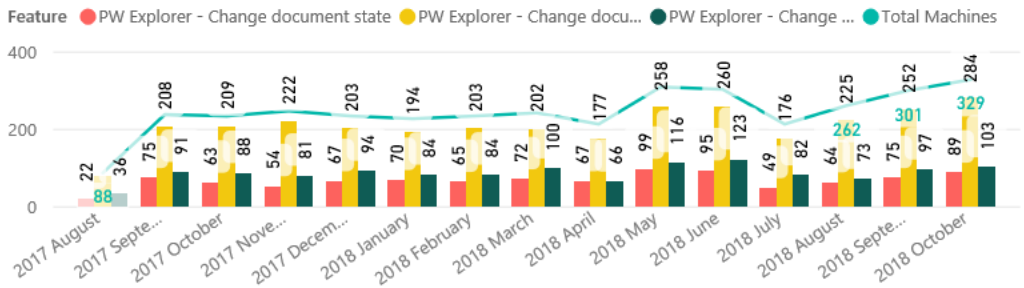
Total PW Users



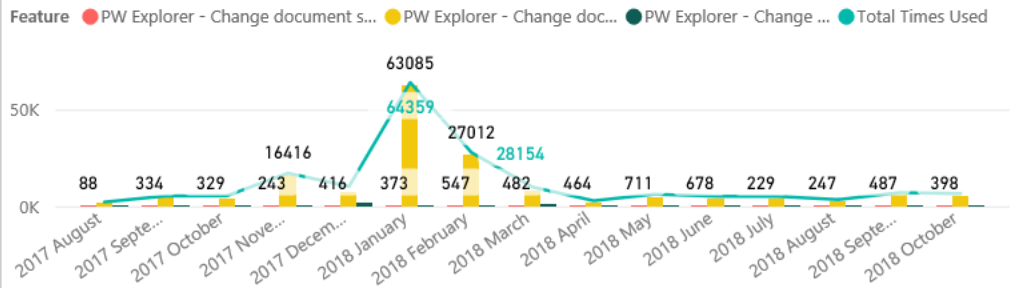
% of Machines Reporting use of Feature



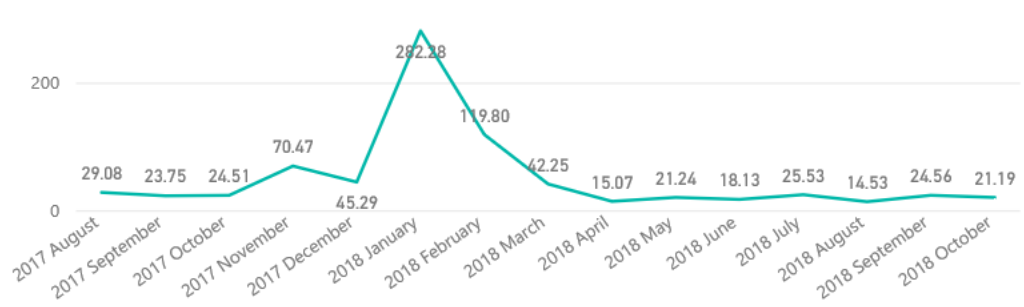
Machines Reporting use of Feature



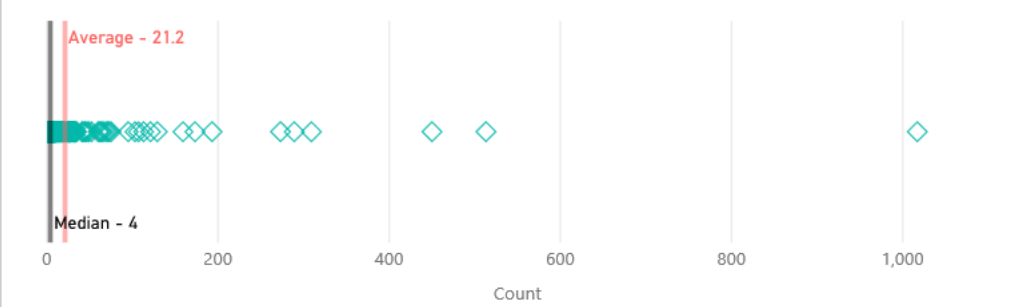
Number of Times Feature is Used



Number of Times used per Machine



Distribution of Times Used per Machine Last Month



FILTERS

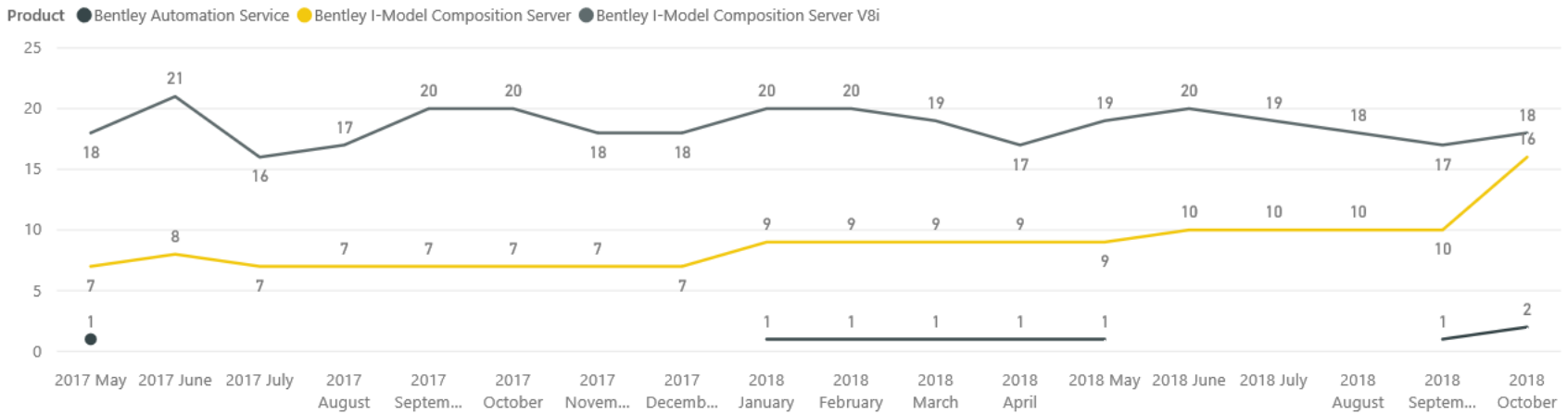
Product Usage through: October 2018

Feature Usage through: October 2018

i-Model Composition Server/BAS Usage

See details

iCS/BAS Servers in use



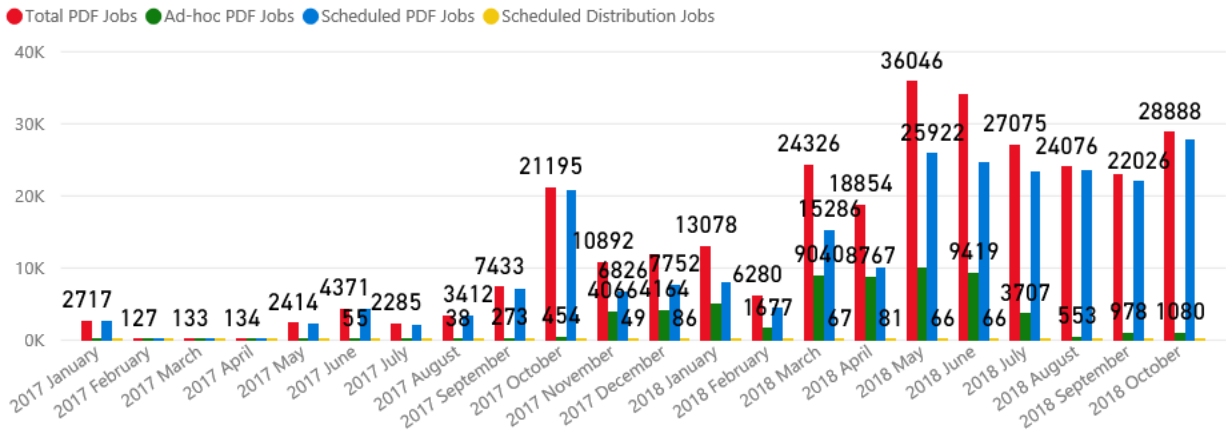
iCS Versions (Last Month)

Version Number	Machines
10.0.3.140	7
10.0.2.265	6
8.11.14.89	4
8.11.11.590	3
8.11.11.596	3
10.0.0.20	2
10.0.1.67	2
10.0.2.59	2
10.0.2.99	2
8.11.11.574	2
10.0.3.120	1
10.0.3.125	1
8.11.11.604	1
8.11.11.605	1
Total	**38**

iCS PDF or Distribution Jobs (Last Month)

Ultimate	UltimateID	Total PDF Output Jobs	Ad-hoc PDF Jobs	Scheduled PDF Jobs	Scheduled Distribution Jobs
SWECO AB	1001388409	21778	938	20840	13
GRAINTEC	1002081974	6816		6816	0
Cowi A/S	1001385132	97	93	4	12
SEAS-NVE Holding A/S	1002045825	59	1	58	0
SNC Lavalin Inc	1001381826	45	45	0	77
Københavns Lufthavne A/S	1001389278	32		32	0
Banedanmark, Drift, IT	1001382164	29		29	0
MOE A/S	1001389233	29		29	0
Ramboll Group A/S	1001385186	3	3	0	0
Metroselskabet I/S	1002065126				30
Total		**28888**	**1080**	**27808**	**132**

iCS PDF or Distribution Jobs



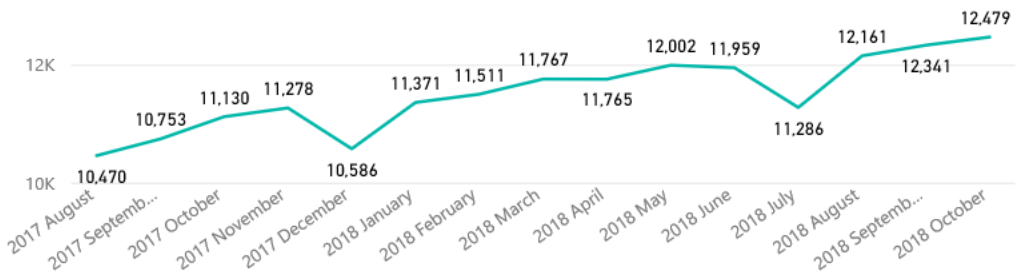
FILTERS

PWDM Users Details | iCS/BAS Usage | Overall Feature Usage | Percentage of Users reporting Feature Us... | Workflow Feature Usage Details | Create Version Feature Usage Details | Generat

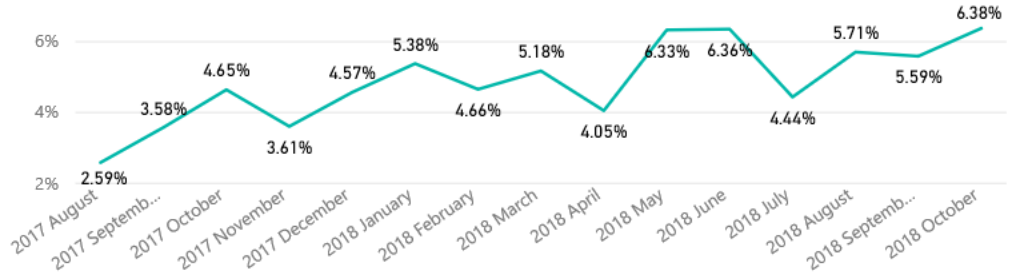
Send Attachment in Email - Feature Usage Details

Can't display the visual. See details.

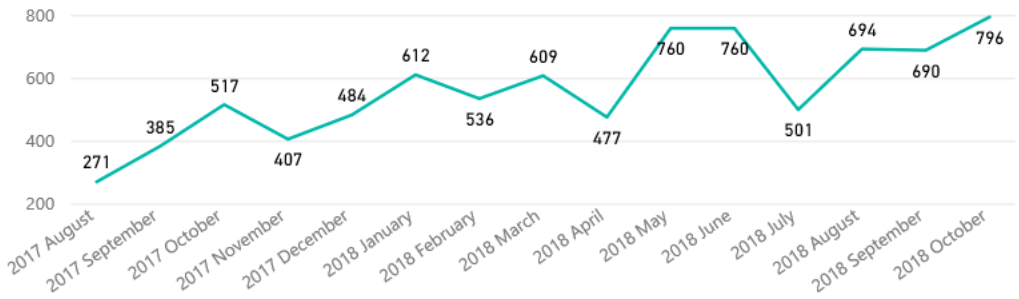
Total PW Users



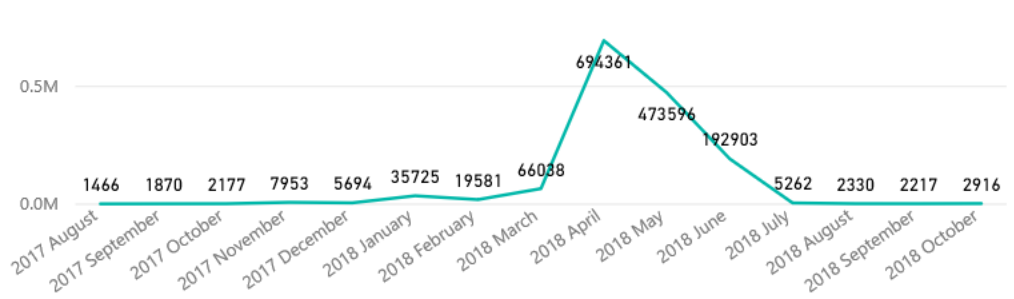
% of Machines Reporting use of Feature



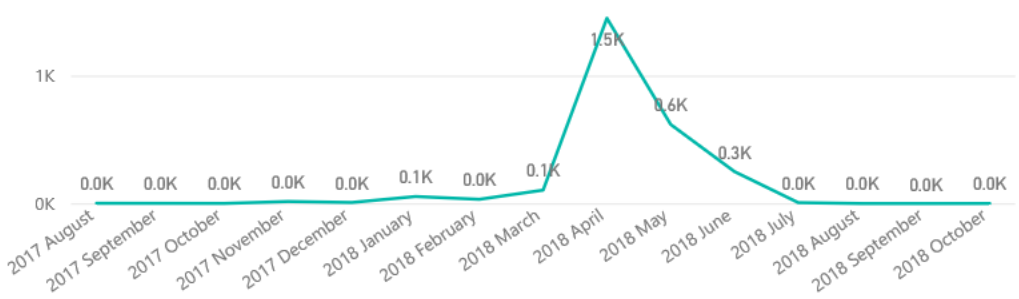
Machines Reporting use of Feature



Number of Times Feature is Used



Number of Times used per Machine



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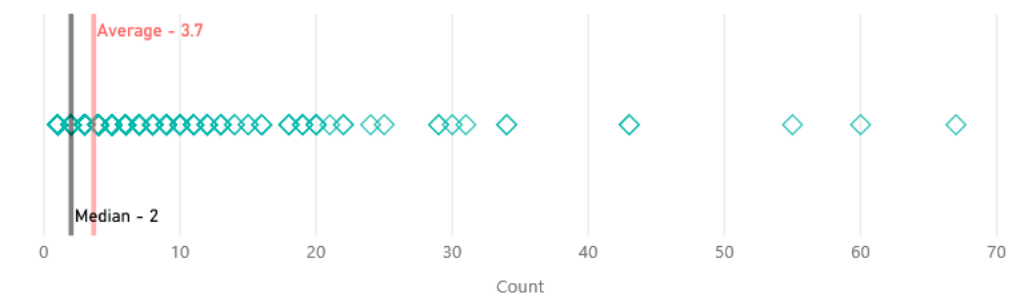


FILTERS

Project Insights

Project Performance Dashboards

Deliverables Status

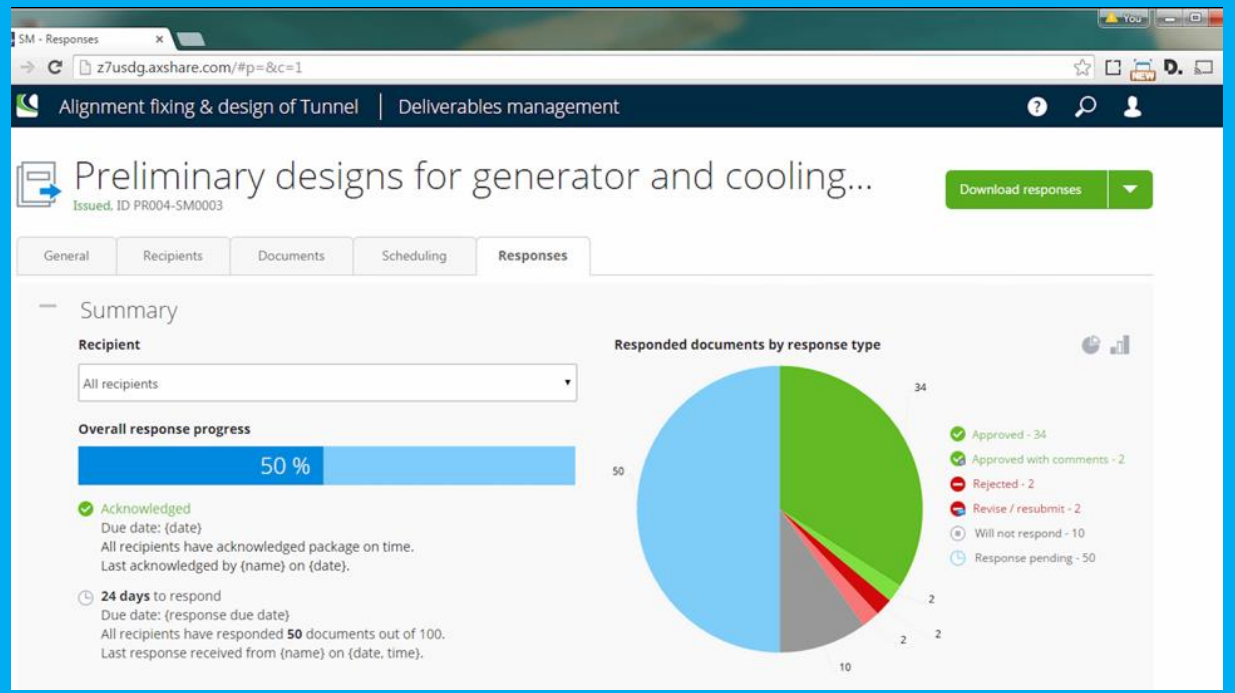
Project % Complete

Level of Activities

Ball-in-Court

Project Load

Supply chain performance



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Possible Focus Areas for Advancing Your Maturity

- Standardize cloud-hosted CDE for new projects
  - Training for project and ProjectWise administrators
- Move design collaboration into the CDE
  - Define and rollout new project standards and workflows
  - Leverage ProjectWise integration with design applications
- Exploit business process automation
  - Workflows, Deliverables Management cloud service

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Action Plan

- Request your organization’s maturity assessment!
- Check the menu item, “Advancing Your Design Worksharing Maturity”
- Prioritize your improvement areas
- Let Bentley help you take action on your priorities

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Interested in acting on this session's topic?

- Leverage our "no strings attached concierge service" for further consultation on this topic

- Mark this session on your form, and a Bentley representative will reach out after the conference

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