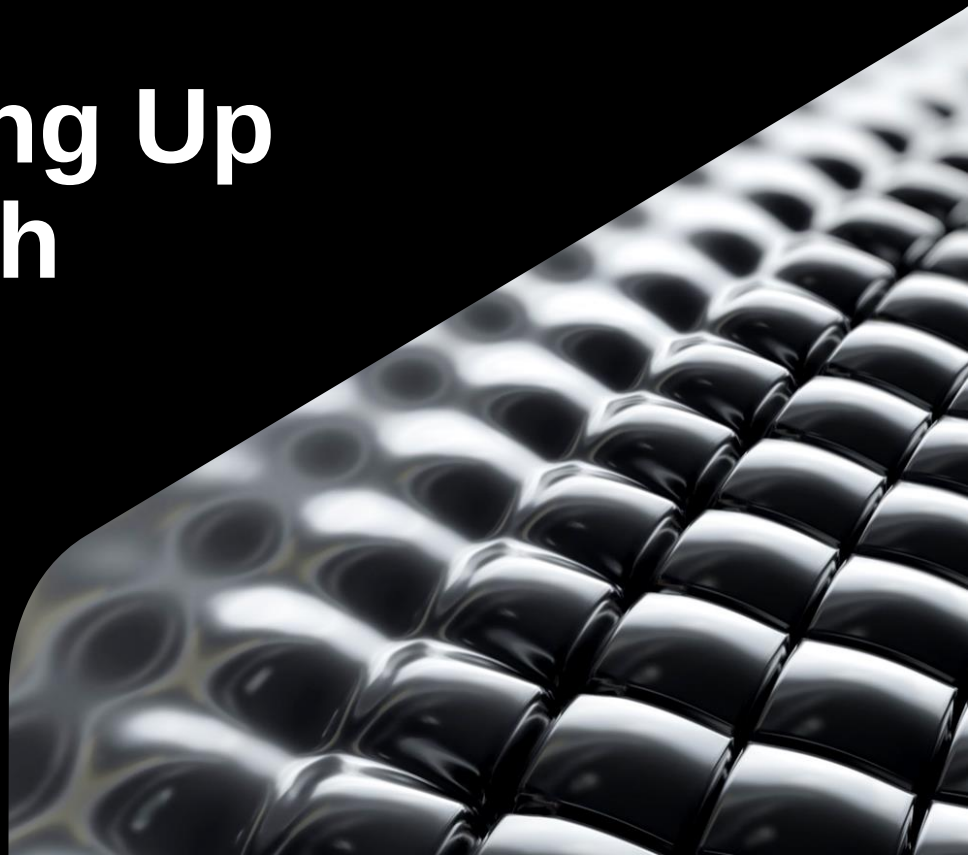
AUTODESK UNIVERSITY

# CS502282 - Scaling Up Enterprise Launch

A Case Study of BIM 360 to Autodesk Construction Cloud



**Lauren L. Collier**
SSOE Group - Director of Project Technology | @LLC_Collier

**Mark LaBell**
SSOE Group - Innovation Technology Leader | @mark_labell_jr

# Introductions

and Learning Objectives

**Mark LaBell**

SSOE Group - Innovation Technology Leader

**Lauren Collier**

SSOE Group - Director of Project Technology

A global project delivery firm for architecture, engineering and construction management

## Mission

To deliver unparalleled client value that advances the AEC industry.

## Vision

Designing and building the future for our clients, colleagues and communities.

**1,254** employees

**19** offices

**3** countries

**98%** of clients surveyed would recommend SSOE to their colleagues

**$1.5+ billion** in documented total project savings for clients

Ranked a **Top 10** design firm in several industries

**150** clients have been with us for over **20 years**

# Learning Objectives

- Gain insights from an enterprise launch of BIM 360 and our upgrade to Autodesk Construction Cloud.
- Learn from implementation examples about the effort and planning that’s required for full company adoption.
- Learn why upgrading to Autodesk Construction Cloud a year after a BIM 360 launch is critical to project success and our digital transformation.
- Learn about improving your company’s digitization journey into construction technology adoption.

# Show me the Stats...

# Current Statistics

## 2401 Projects Created via Automation from ERP

** As of 9/16/2022*

### Data Synced to SSOE Data-Lake

**2054**

#### Active BIM 360

- Test Projects Next Gen Release Date – 12/20
- Go Live of all Projects 1/1/2021.
- Sunsetting projects with ACC rollout.

**468**

#### Active ACC

- Test Projects 7/21-5/22
- Go Live for all Projects 5/31/2022

**1201**

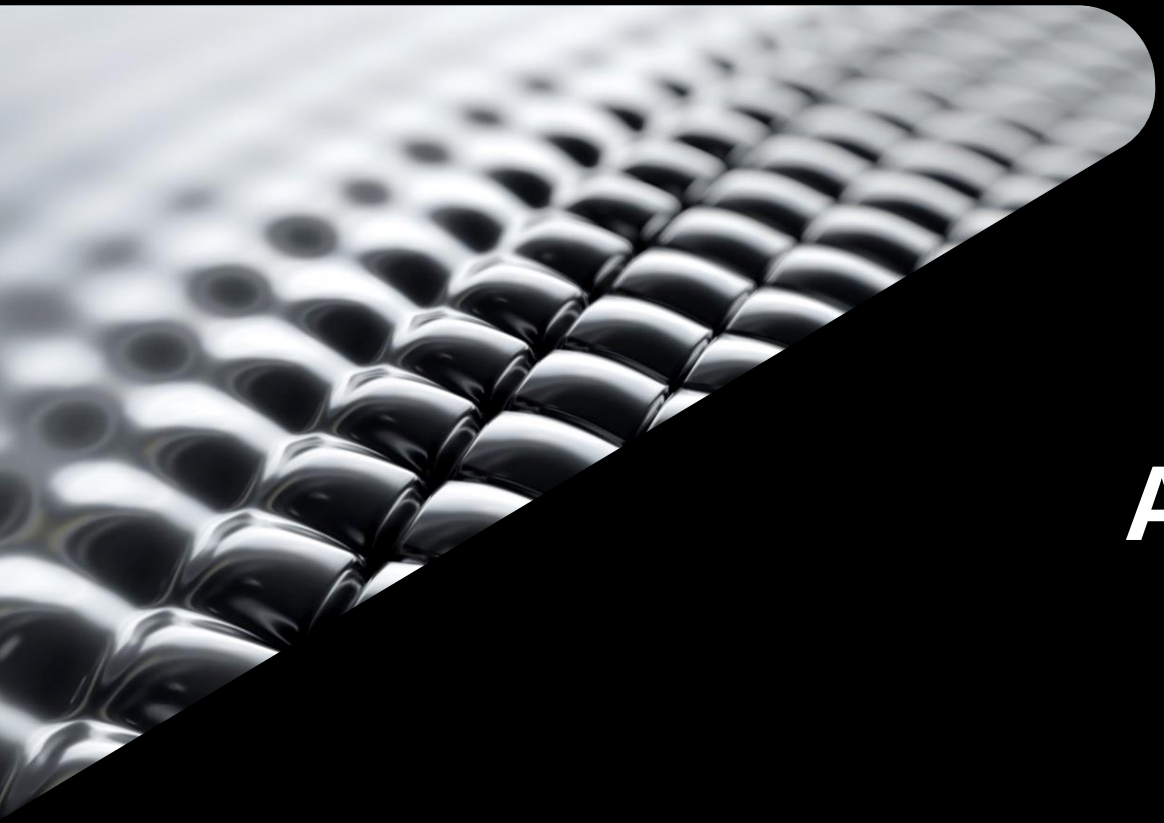
#### Internal Users

User accounts are automated from date of hire and sync'd to Project O365 email groups

**2584**

#### External Users

Access controlled to files via "External Roles" in templates



# A little History

Let’s review last 5 years….

# How did we get here:

2017 | 2018-20 | 2021 | 2022

## Research

- Participated in Next Gen beta w/ Autodesk.
- Worked with progressive teams on how to use for Revit Server replacement and quality process improvements.
- Used classic BIM360 for Construction Management Activities- Safety/Quality Checklists and Issues

## Planning

- Data Mapping exercise.
- Executive Management presentations around rebuilding all IT systems from the ground up. Finance, HR, SharePoint, Project Delivery systems.
- Operations teams assembled and project plans created.

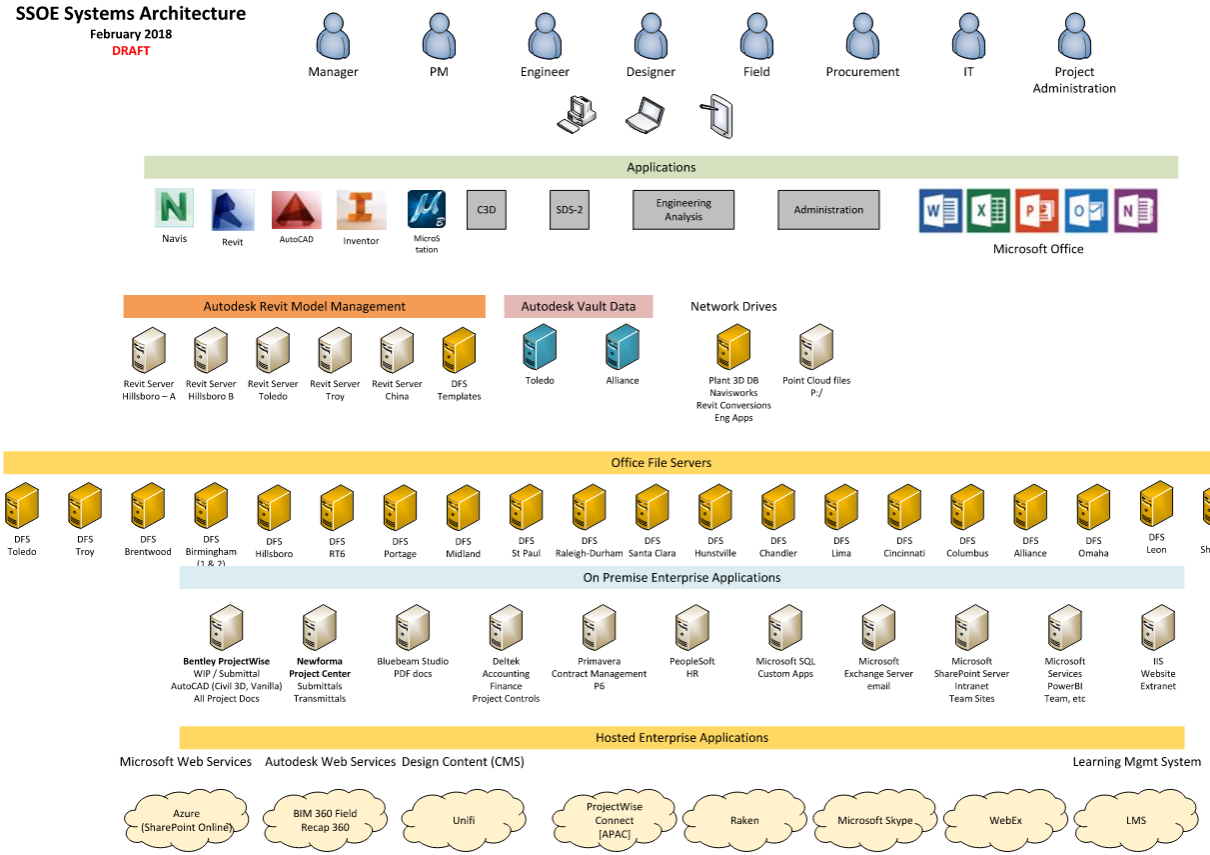
## Phase 1

- BIM360 Go Live for all new projects 1/1/21.
- Training program for all staff and roles.
- Round tables therapy sessions, start-up Communities of Practice (CoP)
- Ramp up migration efforts to move projects from legacy systems..

## Phase 2

- ACC Go Live for all new projects 5/31/22.
- Revised training for differences
- Implement more data reporting and automations to streamline due dates, employee availability and status.
- Refine Quality procedures

# Data Architecture – Mapping Exercise

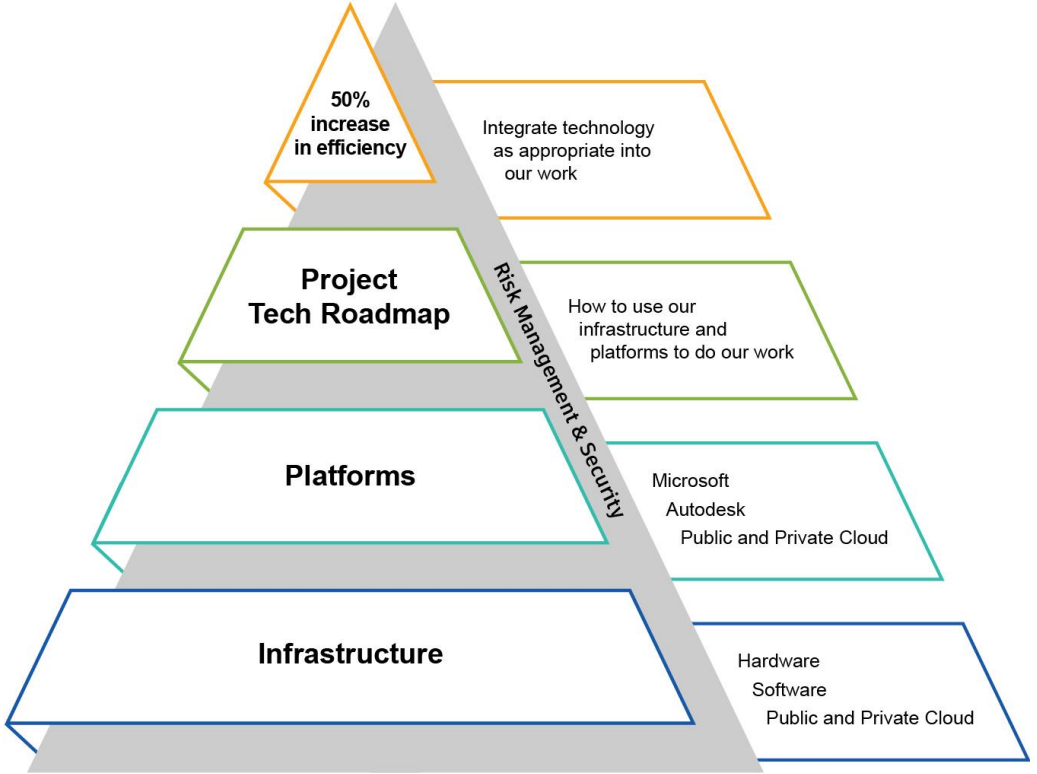


# SSOE Group's Digital Strategy

## Our digital transformation process

It is a Journey that engages your Company, Clients, & Colleagues!

- Current State
- Strategy
- Change Management
- Continuous Improvement




2025 Technology Vision

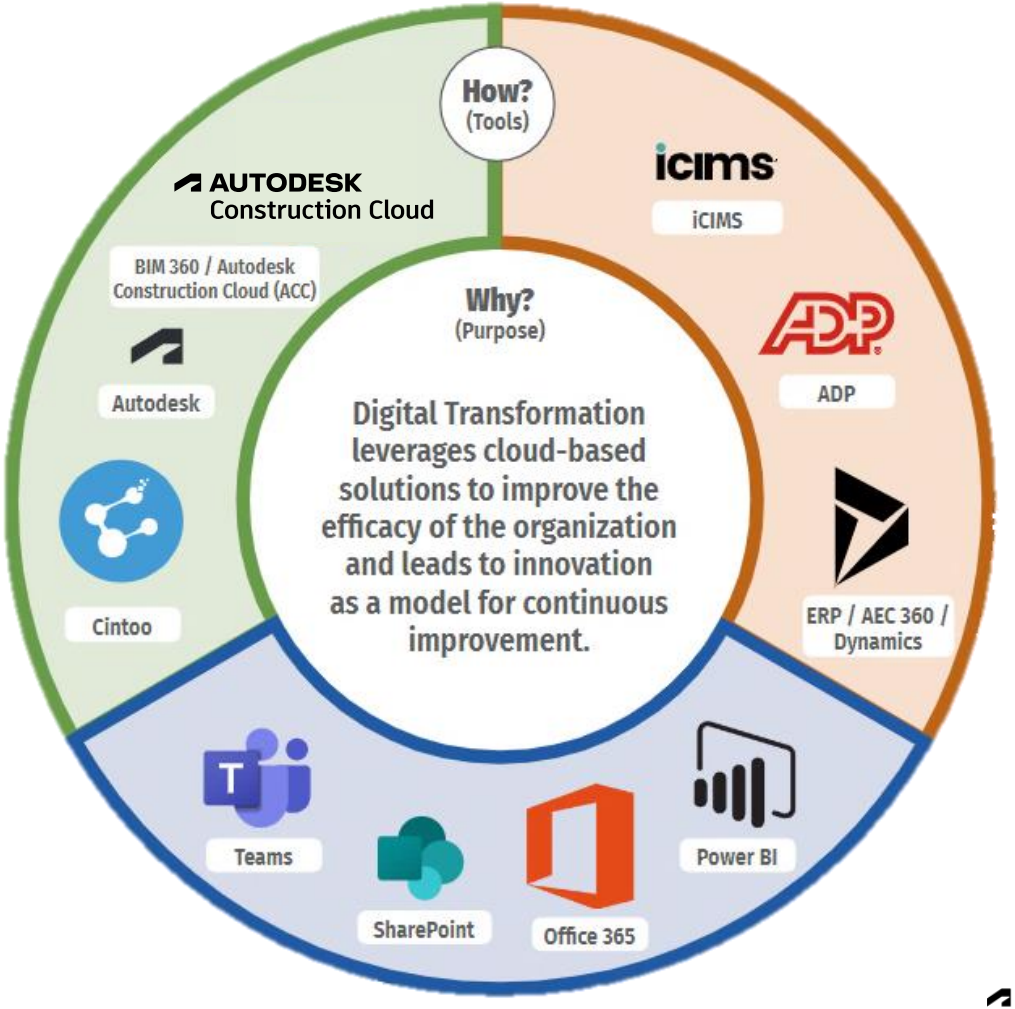
# The North Star

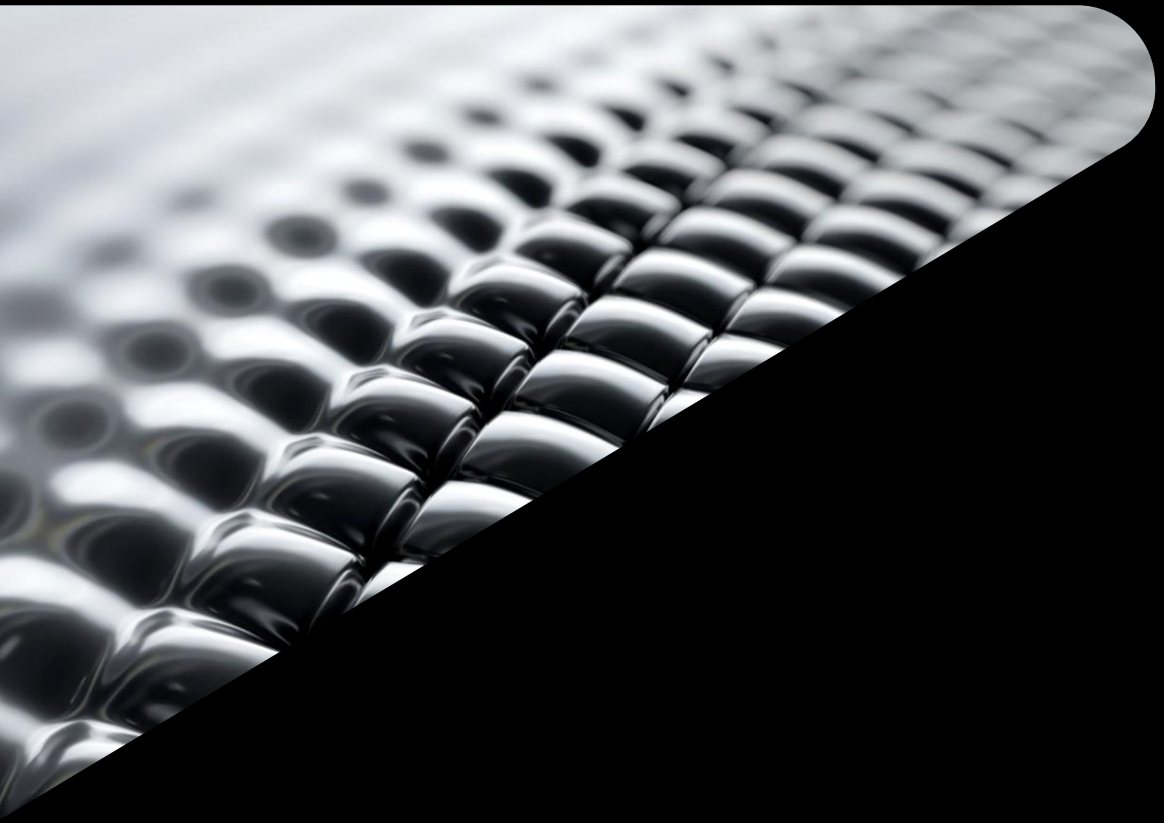
**Key**

Design Tools

Collaboration & Communication

Business Tools





# The Plan

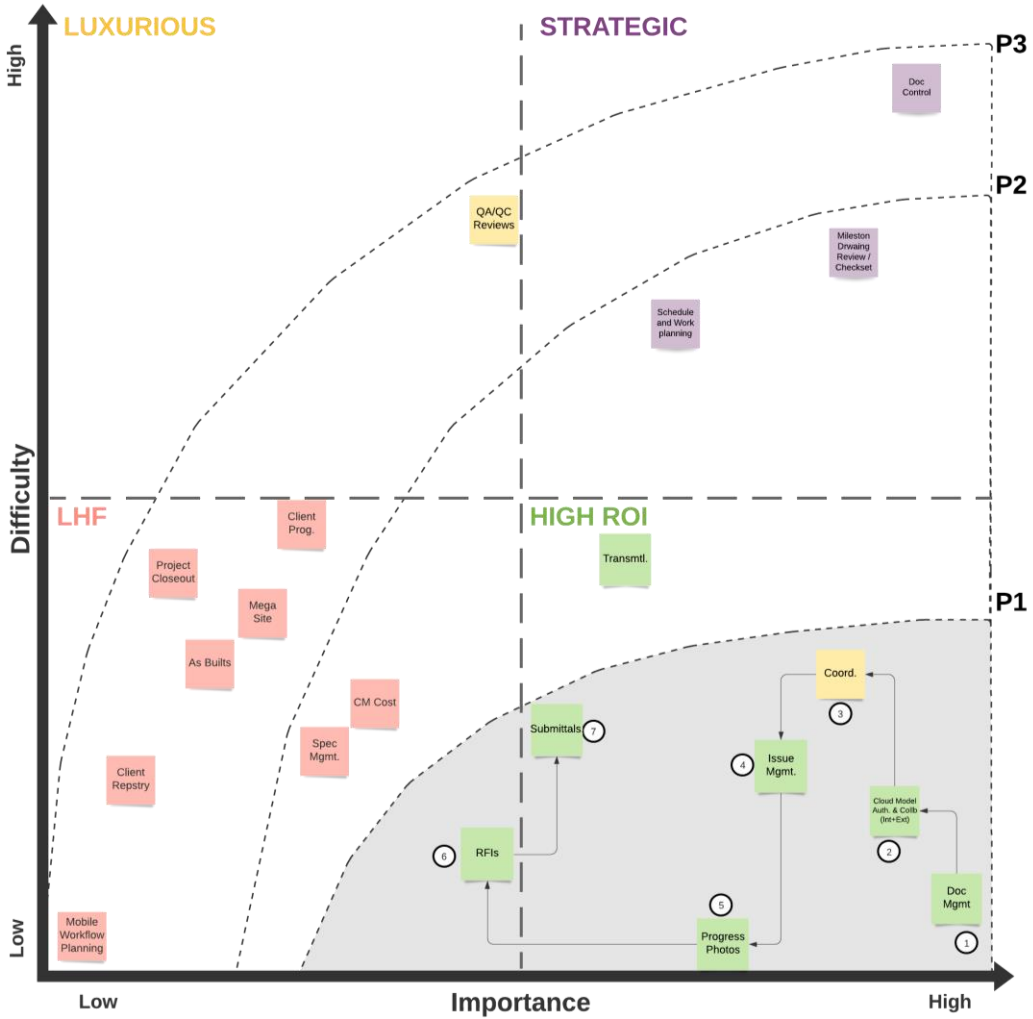
Pilots & Resources

# Why, Who, What, and When

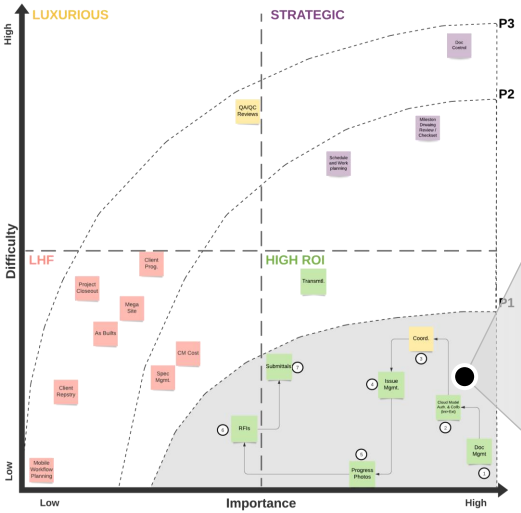
## Breaking down what is necessary for Full Enterprise cut over.

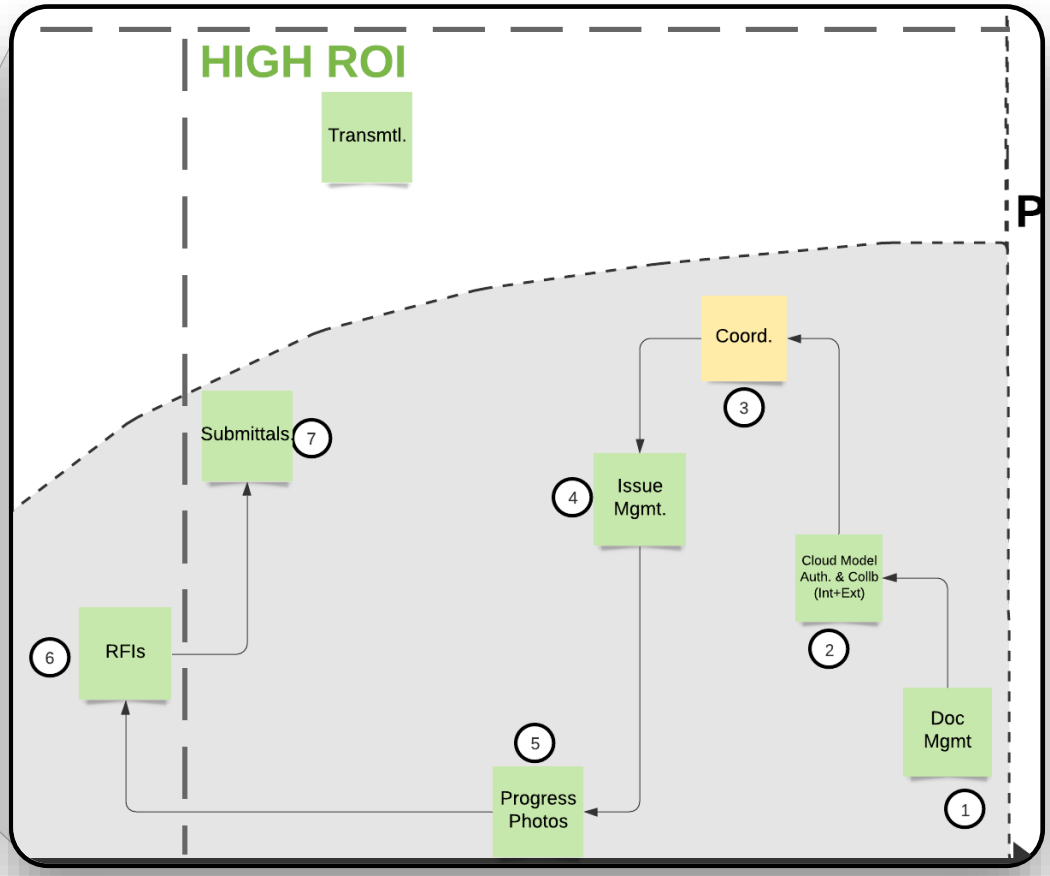
- T.E.A.M. approach, Each business unit 1 Egr/Arch and 1 Proj Mgr on the Core Team.
- Weekly mtgs to review schedule, commitments, budget and as final buy-off.
- Breakout meetings to work on process changes; core team pulled in additional staff.
- Heavily focused marketing involvement. Targeted communications on a scheduled basis to clearly define why, how and when.

# Planning Process



# Planning Process



# Contract Negotiation

## Plan 6-12 months for this process

- SSOE is under an Enterprise Business Agreement (EBA), so we had to negotiate 3 years of cloud token consumption based on predictions of growth and an Unlimited plan for BIM360/ACC.

- Additional services cost tokens based on per use. Do not make it a science project, but just plan for slow growth of non-core modules.

- Bring in your procurement department to help negotiate and review.

# BIM 360 Modules

BIM360 offers a wide range of modules, however we are not initially rolling them all out.

Modules included in Jan. 1, 2021 rollout

Project Home
Landing Page
Dashboards
Actionable Info

Insight
Dashboards
Project Data Visualization
Detailed Analytics
Reports

Project Management
Submittals
RFIs

Document Management
Common Data Environment
Design Authoring
Version Control/Compare
Design & Field Issue Tracking
2D & 3D Model Viewing
Transmittals

Design Collaboration
Authorized Data Exchange
Revit Cloud Worksharing

Model Coordination
Model aggregation
Clash detection

Field Management
Checklists & Issues
Daily Logs

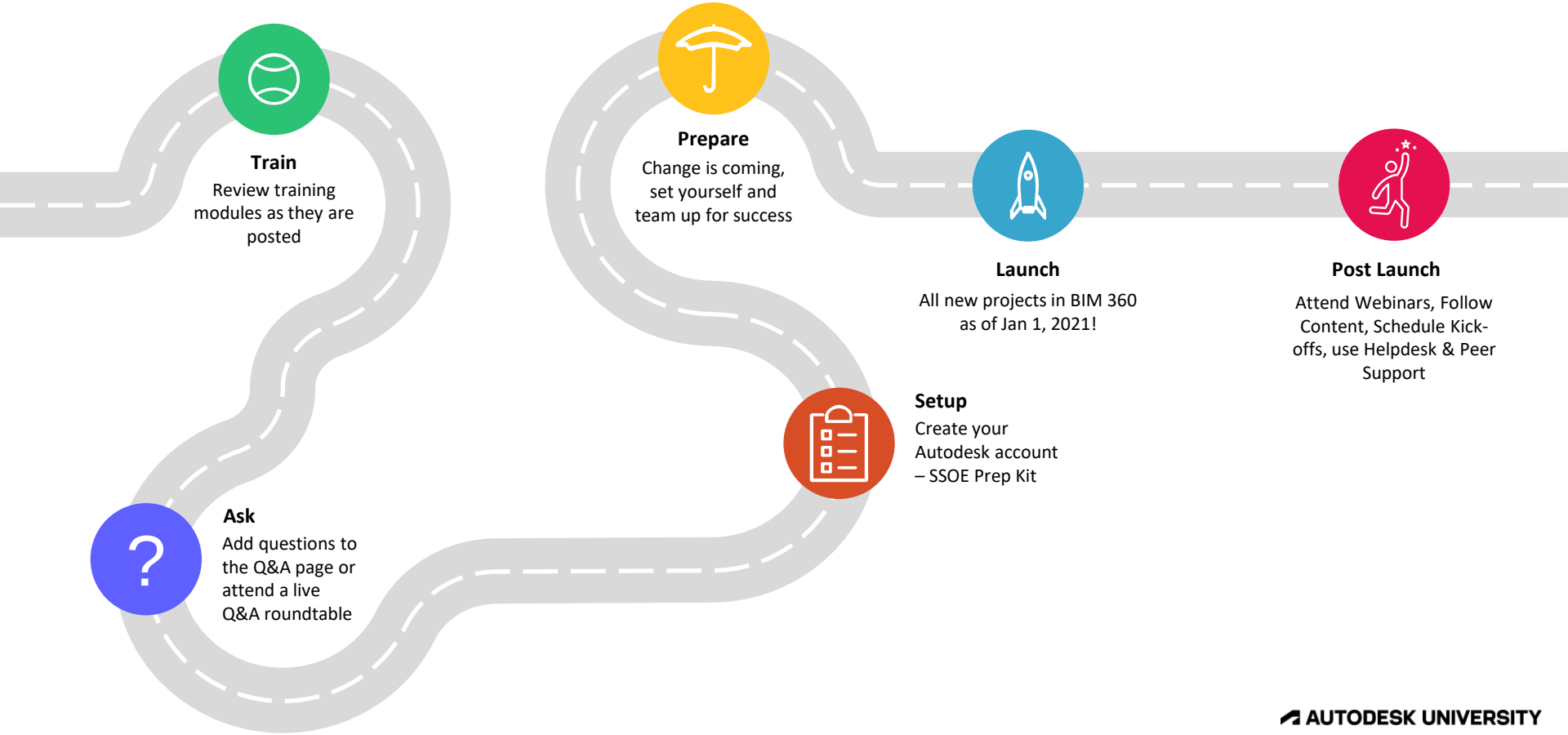
Assets
Track assets throughout their lifecycle

Cost Management
Budget and Cost Control

Modules to be rolled-out – Spring, Summer, and Fall 2021-Winter 2022

ssoe

# Training / Communication



**Train**
Review training modules as they are posted

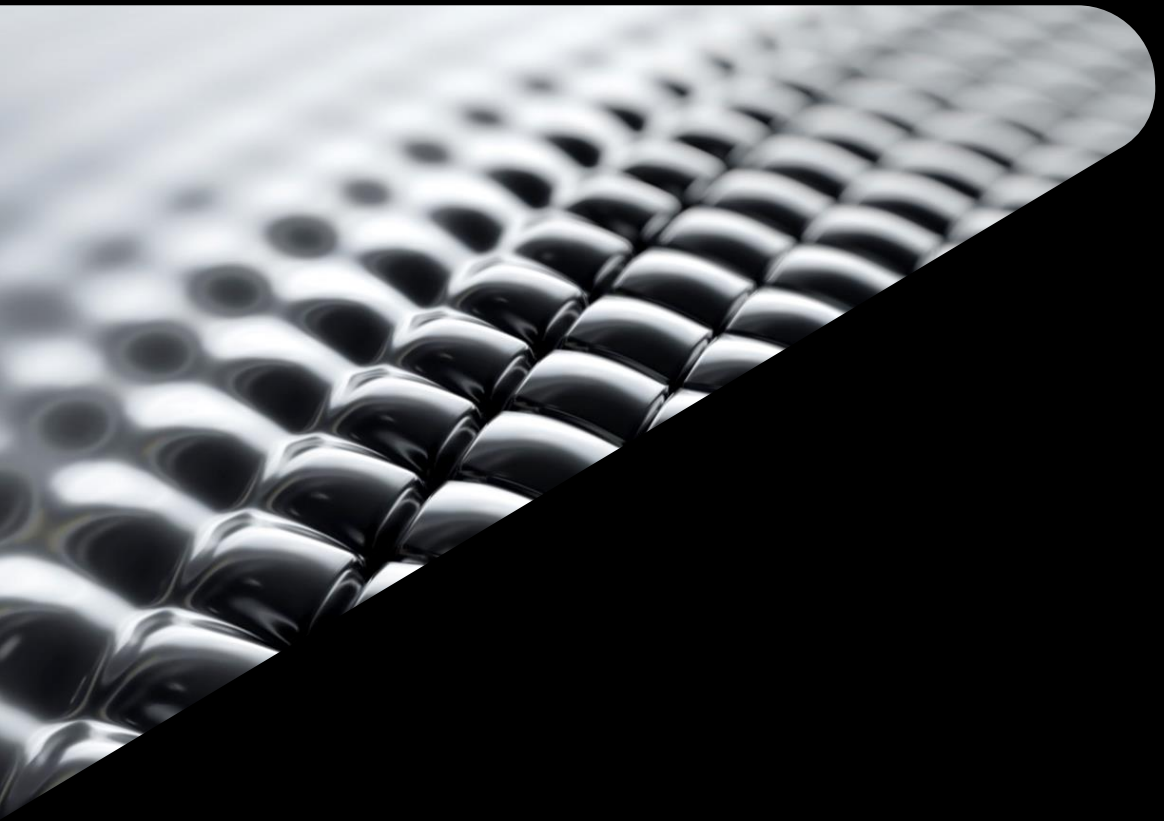
**Prepare**
Change is coming, set yourself and team up for success

**Launch**
All new projects in BIM 360 as of Jan 1, 2021!

**Post Launch**
Attend Webinars, Follow Content, Schedule Kick-offs, use Helpdesk & Peer Support

**Setup**
Create your Autodesk account – SSOE Prep Kit

**Ask**
Add questions to the Q&A page or attend a live Q&A roundtable

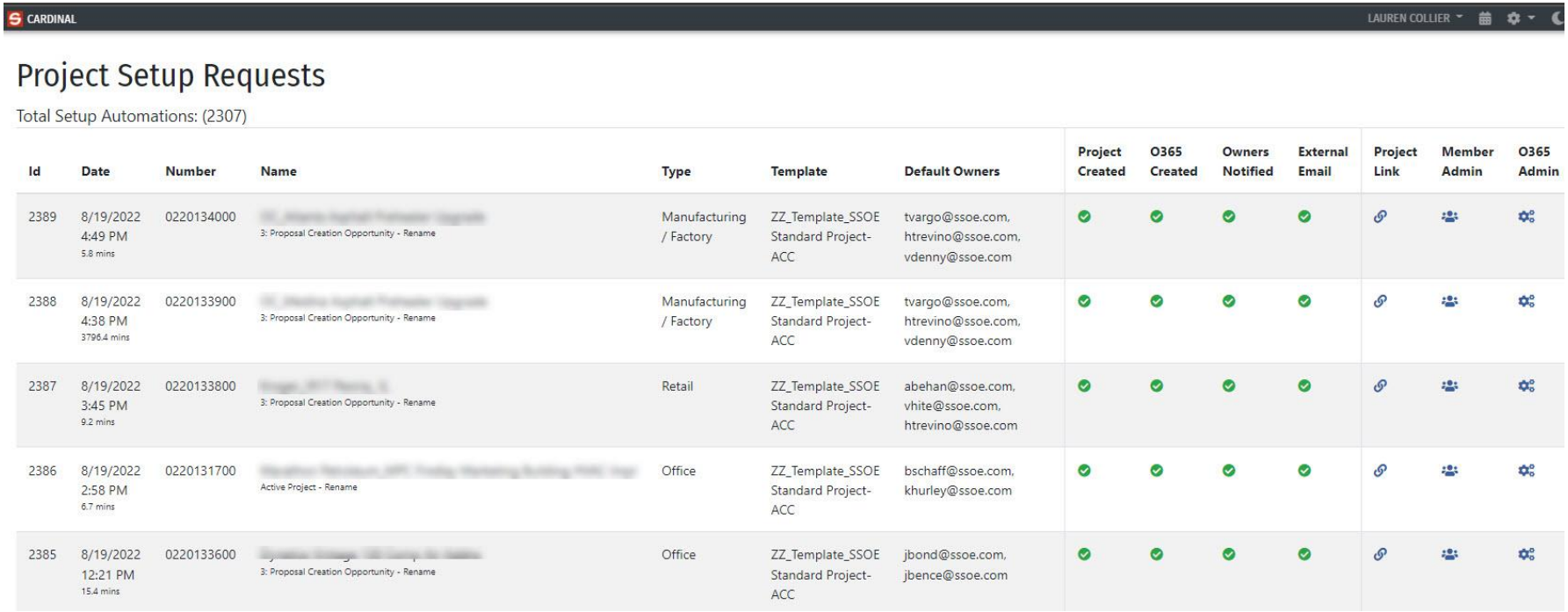


# BIM360 Launch

Enterprise-wide January 1st, 2021

# Project Start-up Automation

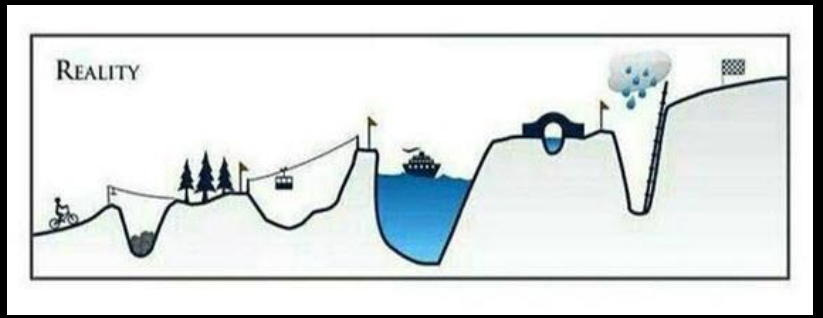
## Saves 1.5 FTE's a year




| Id | Date | Number | Name | Type | Template | Default Owners | Project Created | O365 Created | Owners Notified | External Email | Project Link | Member Admin | O365 Admin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2389 | 8/19/2022 4:49 PM 5.8 mins | 0220134000 | [redacted] 3: Proposal Creation Opportunity - Rename | Manufacturing / Factory | ZZ_Template_SSOE Standard Project-ACC | tvargo@ssoe.com, htrevino@ssoe.com, vdenny@ssoe.com | ✓ | ✓ | ✓ | ✓ | | | |
| 2388 | 8/19/2022 4:38 PM 3796.4 mins | 0220133900 | [redacted] 3: Proposal Creation Opportunity - Rename | Manufacturing / Factory | ZZ_Template_SSOE Standard Project-ACC | tvargo@ssoe.com, htrevino@ssoe.com, vdenny@ssoe.com | ✓ | ✓ | ✓ | ✓ | | | |
| 2387 | 8/19/2022 3:45 PM 9.2 mins | 0220133800 | [redacted] 3: Proposal Creation Opportunity - Rename | Retail | ZZ_Template_SSOE Standard Project-ACC | abehan@ssoe.com, vhite@ssoe.com, htrevino@ssoe.com | ✓ | ✓ | ✓ | ✓ | | | |
| 2386 | 8/19/2022 2:58 PM 6.7 mins | 0220131700 | [redacted] Active Project - Rename | Office | ZZ_Template_SSOE Standard Project-ACC | bschaff@ssoe.com, khurley@ssoe.com | ✓ | ✓ | ✓ | ✓ | | | |
| 2385 | 8/19/2022 12:21 PM 15.4 mins | 0220133600 | [redacted] 3: Proposal Creation Opportunity - Rename | Office | ZZ_Template_SSOE Standard Project-ACC | jbond@ssoe.com, jbence@ssoe.com | ✓ | ✓ | ✓ | ✓ | | | |

## First 30 days (Jan 2021)

## Next 18 months



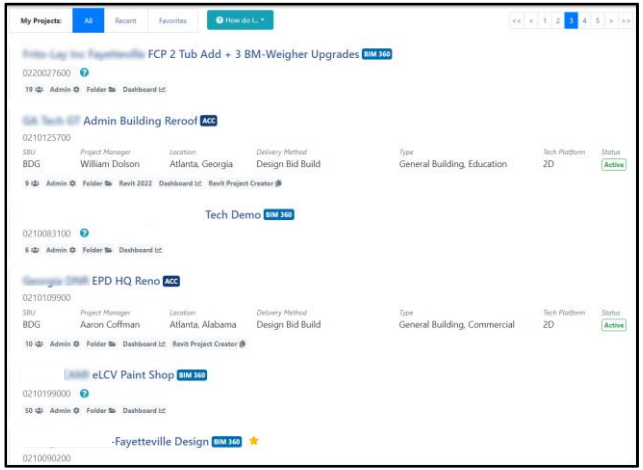
# Project Access Request

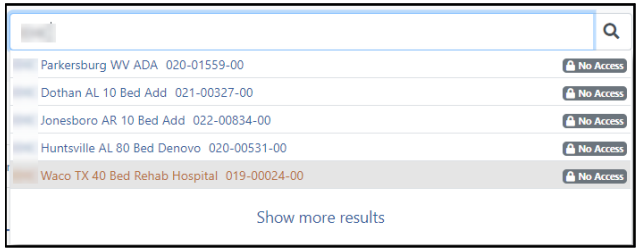
## Mind shift change from All Access to Per Project

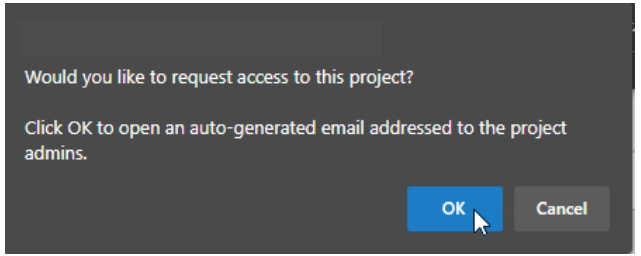
- BIM 360/ACC 2500+ Active projects
  - Automated Project Naming from ERP @Opportunity
    - End Client_Short Description
    - Project number, Location, PM, PMA, BIM Mgr. All assigned from ERP @project creation
    - ACC & ERP data combined in Data Lake for our Cardinal Webpage
  - Legacy DMS 3000 Active Projects
    - All Access unless Confidential – Alpha Numeric/Client/Location/Project Number/Folder structure

- SSOE Users can search all Active by ACC or ERP Metadata

- SSOE Users can request Project Access via SSOE Webpage
  - Sends notification to Project Admins
  - Average wait time in less than 15 min

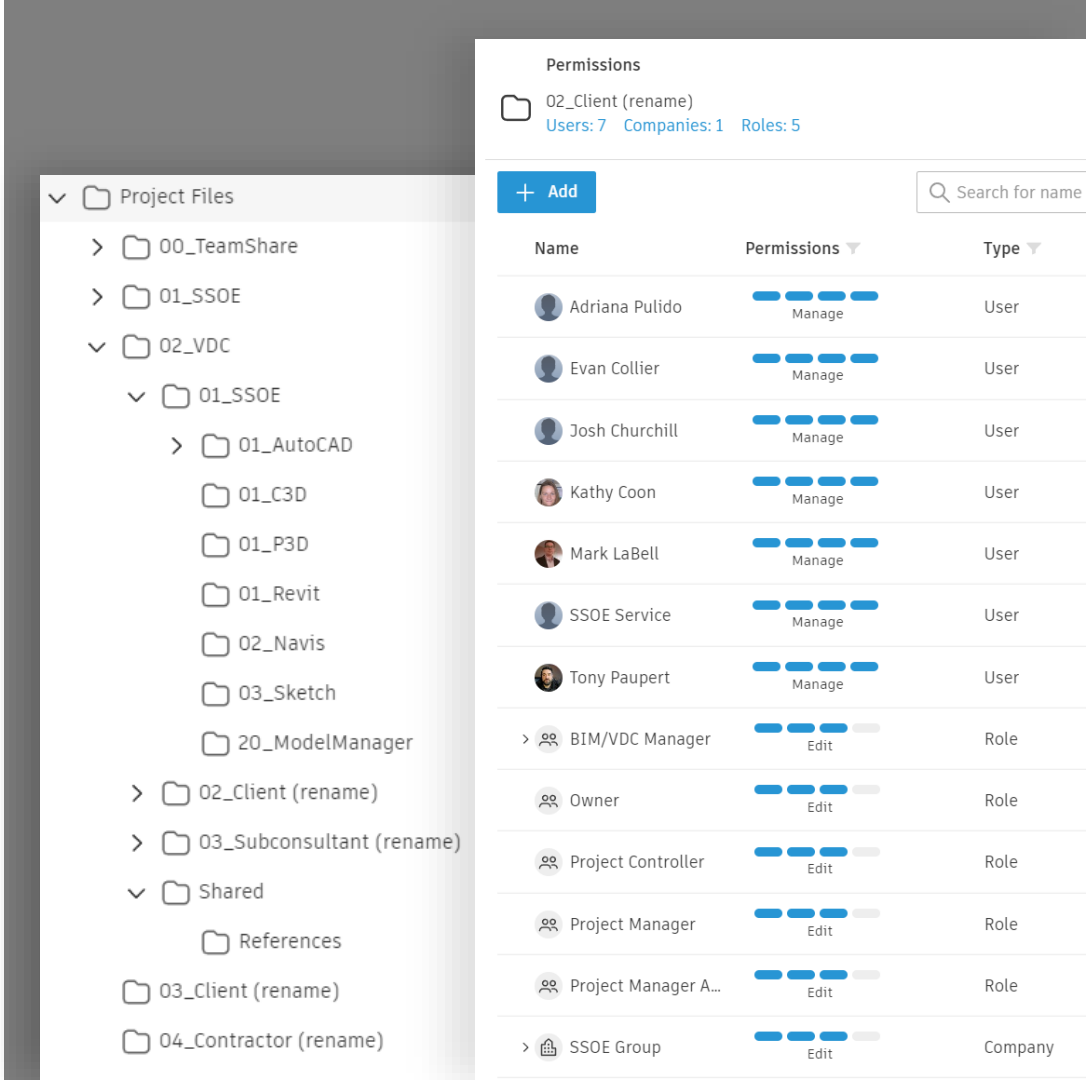


# Focus of Rollout

- Docs
  - Folder Access
    - SSOE Employees = Company
    - External = External ___
    - Client = Owner
- PM
  - Full control of their projects
    - Takes a lot of unplanned time to coach
- Desktop connector
  - Like no other system ever used.

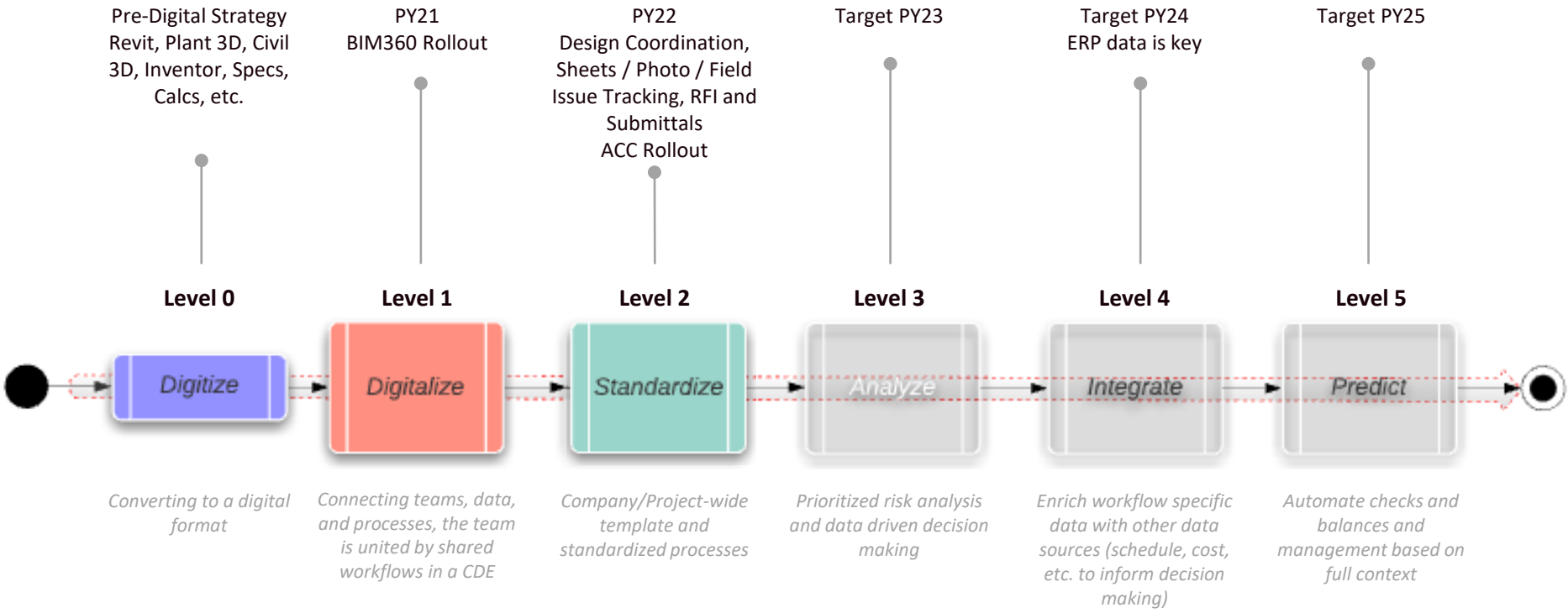


# Lessons Learned

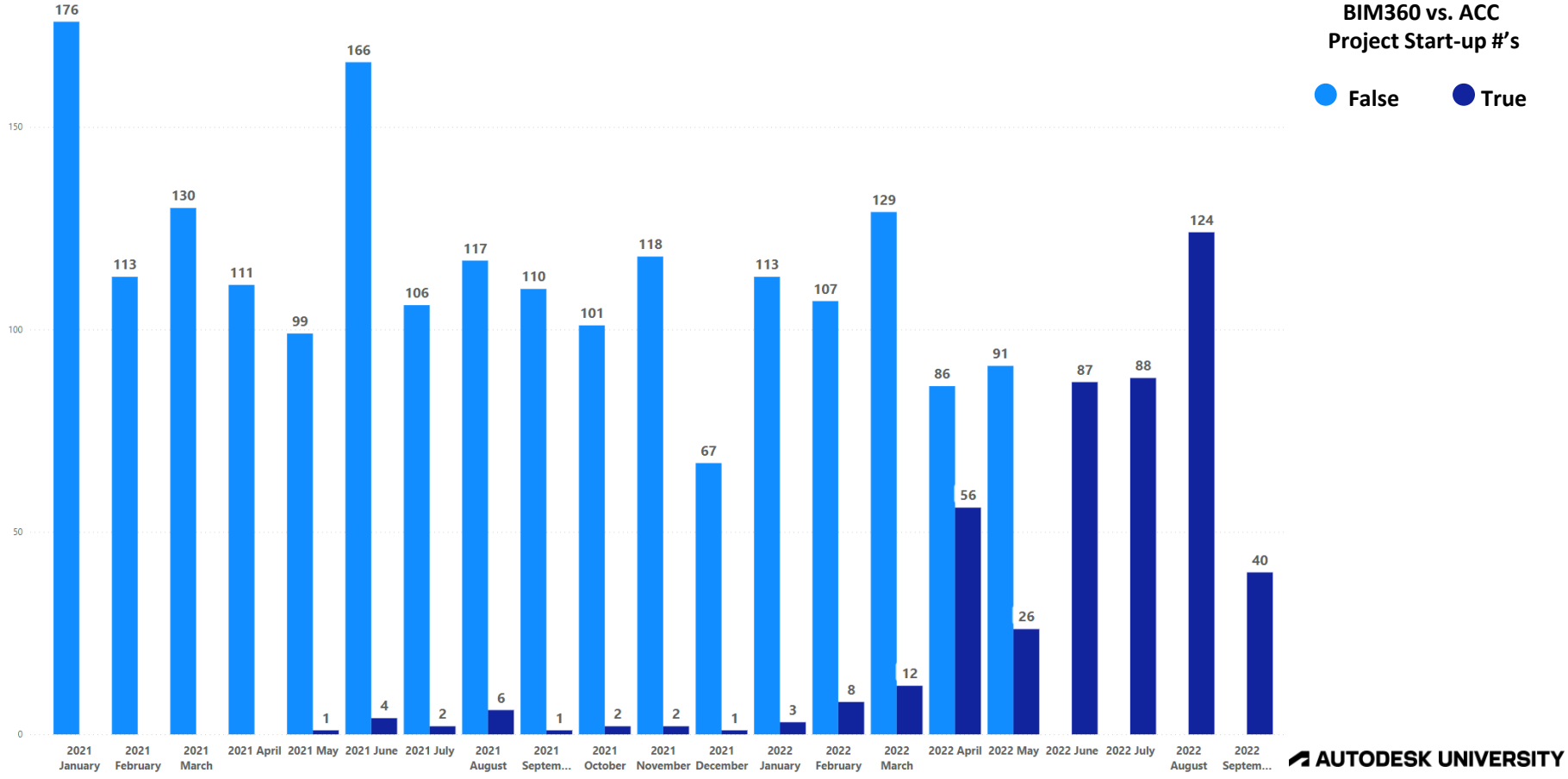
## Items we discovered during roll-out

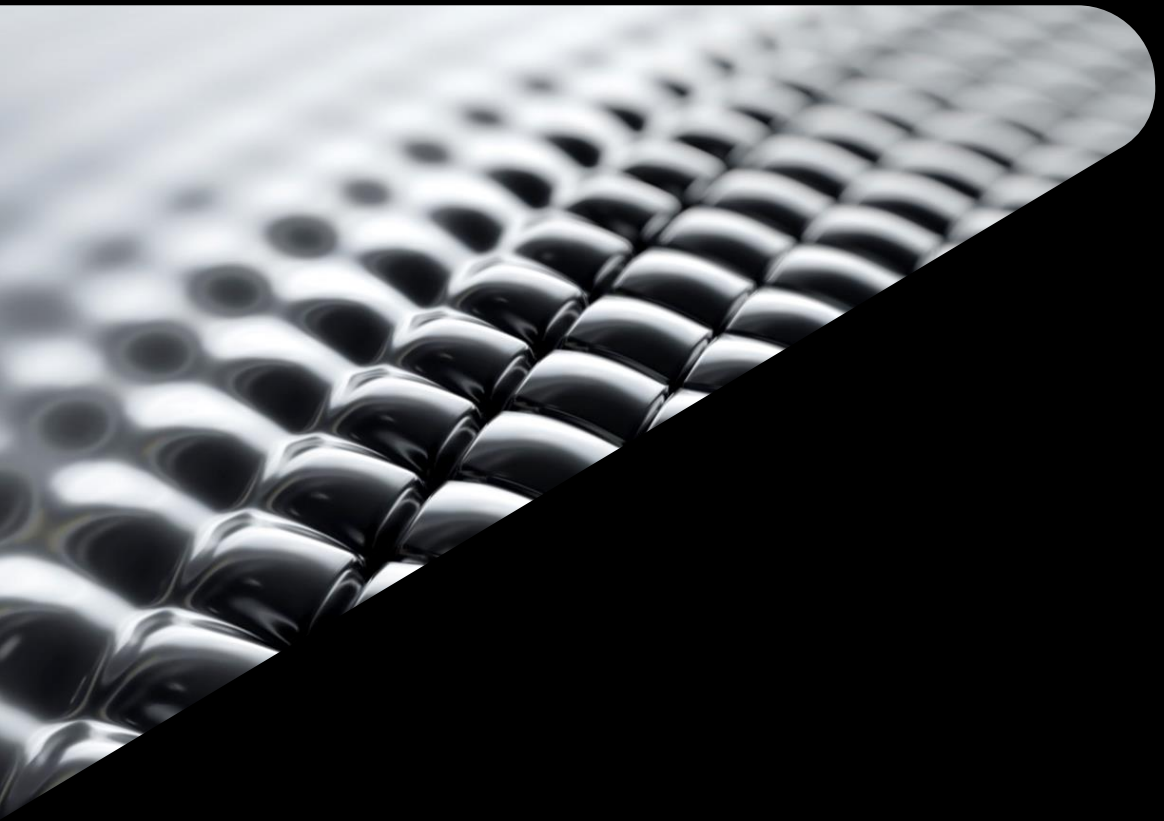
- Desktop Connector, doesn't lock files, latency issues, and not like anything out there.
- When to use the web interface over Desktop Connector.
- Migration of projects and confusion of old methods and do we use new tools.
- Autodesk training is good, custom workflows are better. Sitting over the shoulder is the best.
- Sandboxes for users to play before and after rollout.
- Permissions – Companies, Roles, Users
- Full-time Team – Lead and support staff burn-out
- LEADERSHIP – Buy-in & support across all levels

# Digital Transformation - SSOE Progress



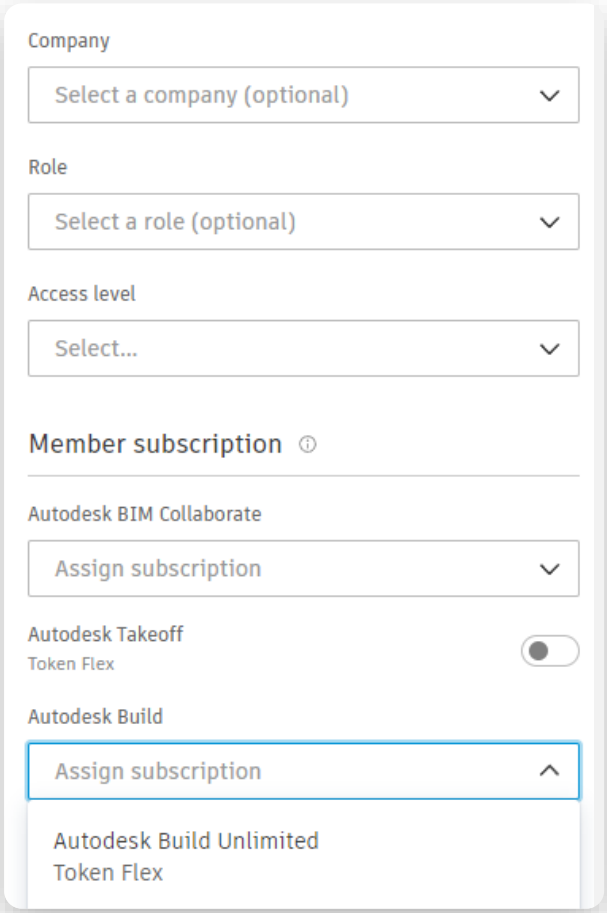
# BIM360 – ACC Transition 2022





# ACC - Launch

Enterprise-wide May 31st, 2022

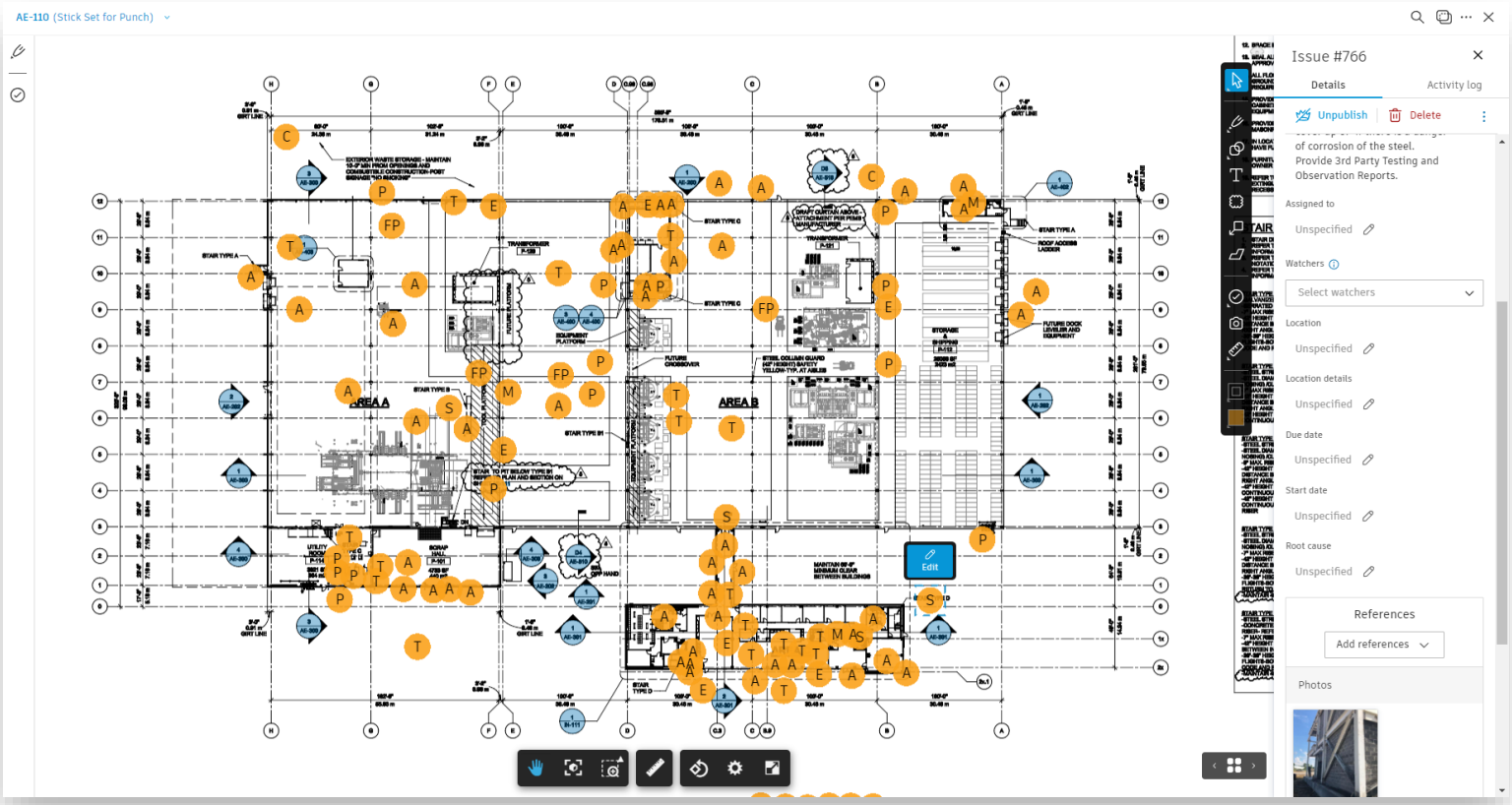



# License Administration

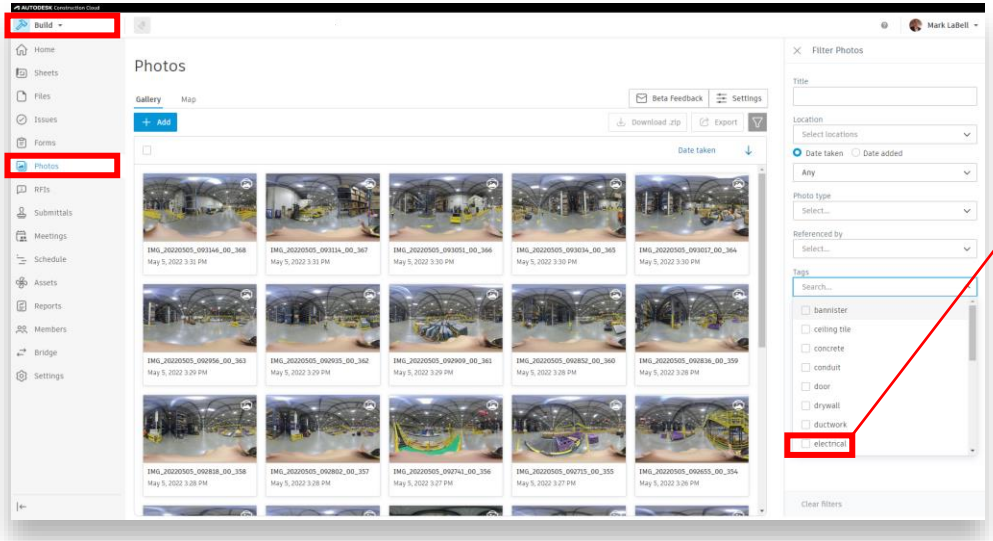
## External Users Require More Attention

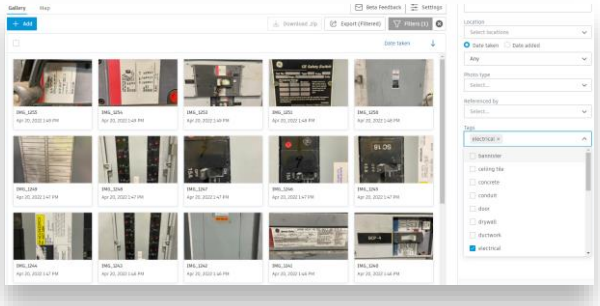
- Enterprise Customers
  - Starting In April all new external users get Unlimited Build
  - If added to BIM360, then added to an ACC project an Account Admin will still need to manually add
- Once a license is assigned, it travels outside of your hub.
- Internal users get access right away because of Account Administration automation.

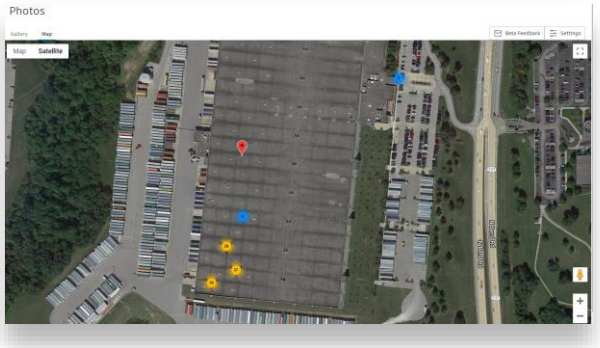
# Field Enhancements



# Photos Enhancements

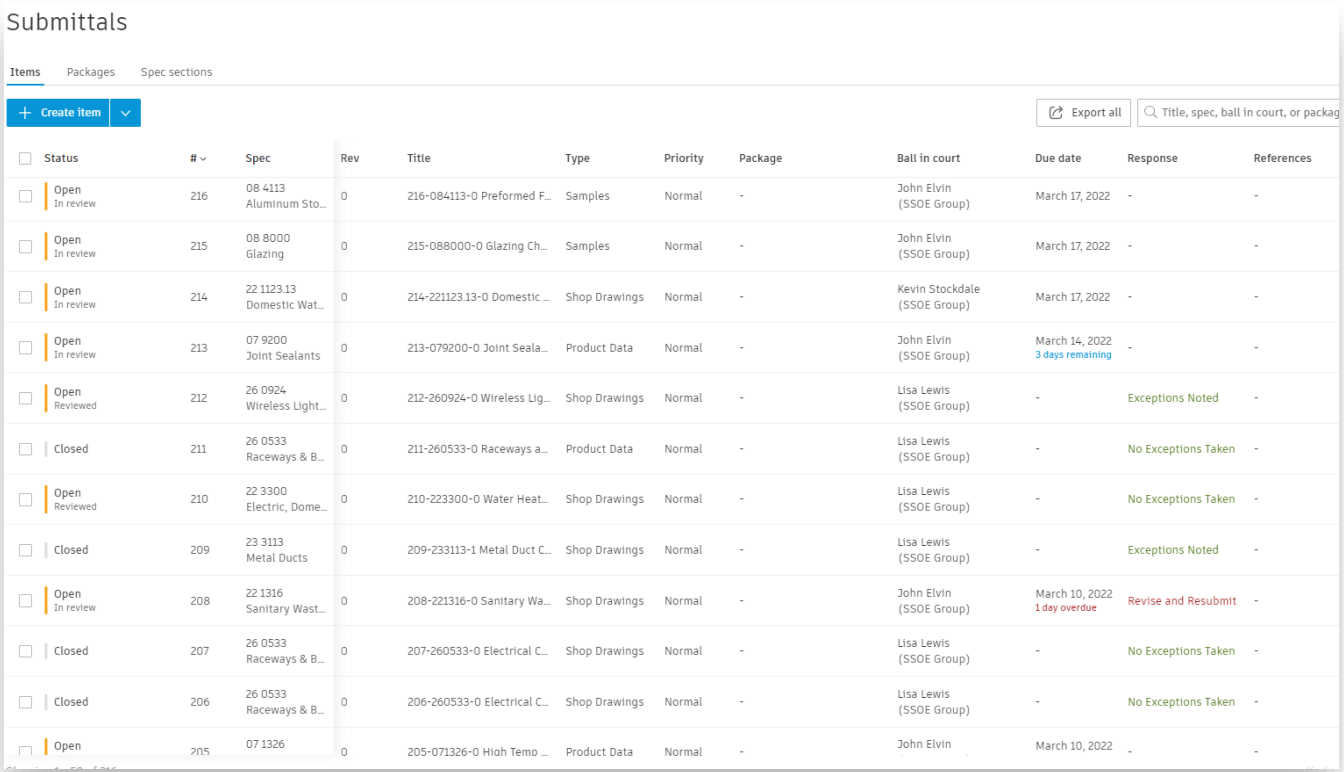




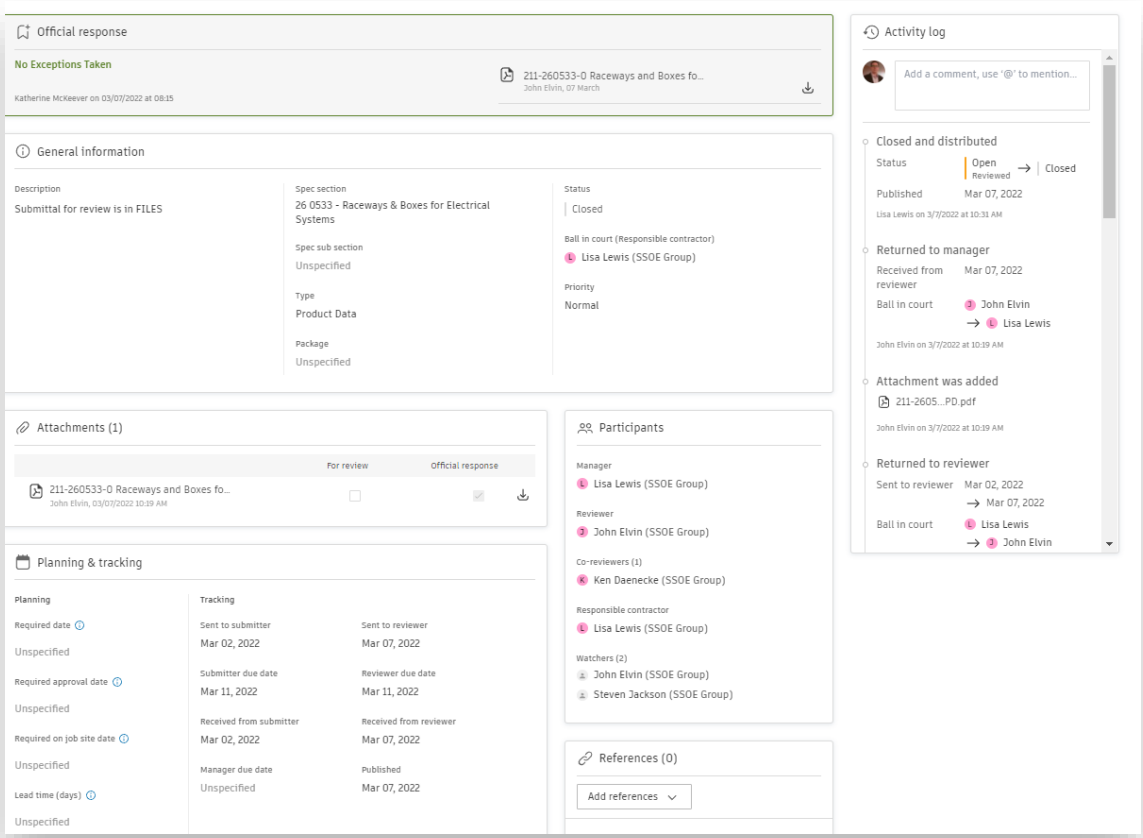

- Photos is a library with auto tagging, viewing and linking to plans, RFIs, Issues, and models. Supports 360-degree camera and GPS tracking for map view (lower right image). Photos can easily be shared with external members.
- Photos stored in folders do not allow any of the above features which is why the folder structure was removed from the default SSOE structure.

# Project Quality Enhancements

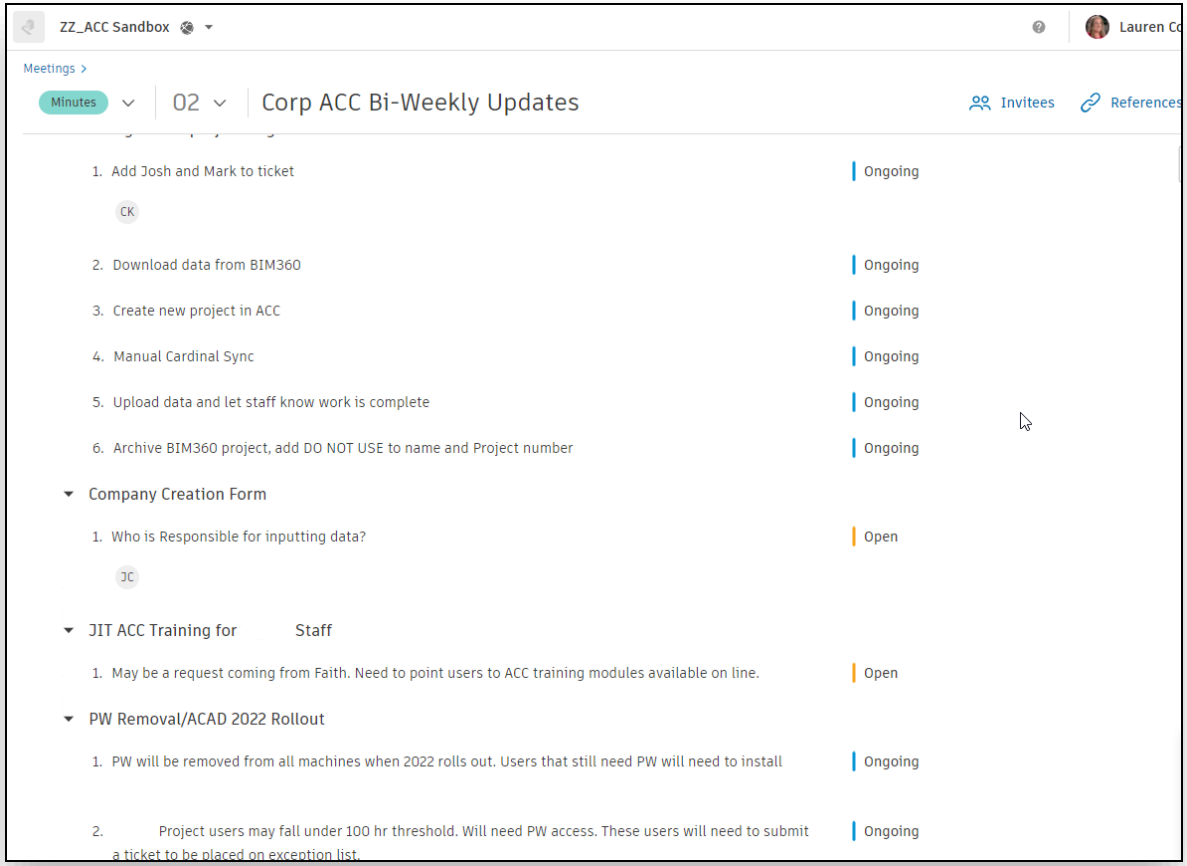



| Status | # | Spec | Rev | Title | Type | Priority | Package | Ball in court | Due date | Response | References |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open In review | 216 | 08 4113 Aluminum Sto... | 0 | 216-084113-0 Preformed F... | Samples | Normal | - | John Elvin (SSOE Group) | March 17, 2022 | - | - |
| Open In review | 215 | 08 8000 Glazing | 0 | 215-088000-0 Glazing Ch... | Samples | Normal | - | John Elvin (SSOE Group) | March 17, 2022 | - | - |
| Open In review | 214 | 22 1123.13 Domestic Wat... | 0 | 214-221123.13-0 Domestic ... | Shop Drawings | Normal | - | Kevin Stockdale (SSOE Group) | March 17, 2022 | - | - |
| Open In review | 213 | 07 9200 Joint Sealants | 0 | 213-079200-0 Joint Seala... | Product Data | Normal | - | John Elvin (SSOE Group) | March 14, 2022 3 days remaining | - | - |
| Open Reviewed | 212 | 26 0924 Wireless Light... | 0 | 212-260924-0 Wireless Lig... | Shop Drawings | Normal | - | Lisa Lewis (SSOE Group) | - | Exceptions Noted | - |
| Closed | 211 | 26 0533 Raceways & B... | 0 | 211-260533-0 Raceways a... | Product Data | Normal | - | Lisa Lewis (SSOE Group) | - | No Exceptions Taken | - |
| Open Reviewed | 210 | 22 3300 Electric, Dome... | 0 | 210-223300-0 Water Heat... | Shop Drawings | Normal | - | Lisa Lewis (SSOE Group) | - | No Exceptions Taken | - |
| Closed | 209 | 23 3113 Metal Ducts | 0 | 209-233113-1 Metal Duct C... | Shop Drawings | Normal | - | Lisa Lewis (SSOE Group) | - | Exceptions Noted | - |
| Open In review | 208 | 22 1316 Sanitary Wast... | 0 | 208-221316-0 Sanitary Wa... | Shop Drawings | Normal | - | John Elvin (SSOE Group) | March 10, 2022 1 day overdue | Revise and Resubmit | - |
| Closed | 207 | 26 0533 Raceways & B... | 0 | 207-260533-0 Electrical C... | Shop Drawings | Normal | - | Lisa Lewis (SSOE Group) | - | No Exceptions Taken | - |
| Closed | 206 | 26 0533 Raceways & B... | 0 | 206-260533-0 Electrical C... | Shop Drawings | Normal | - | Lisa Lewis (SSOE Group) | - | No Exceptions Taken | - |
| Open | 205 | 07 1326 | 0 | 205-071326-0 High Temp ... | Product Data | Normal | - | John Elvin | March 10, 2022 | - | - |

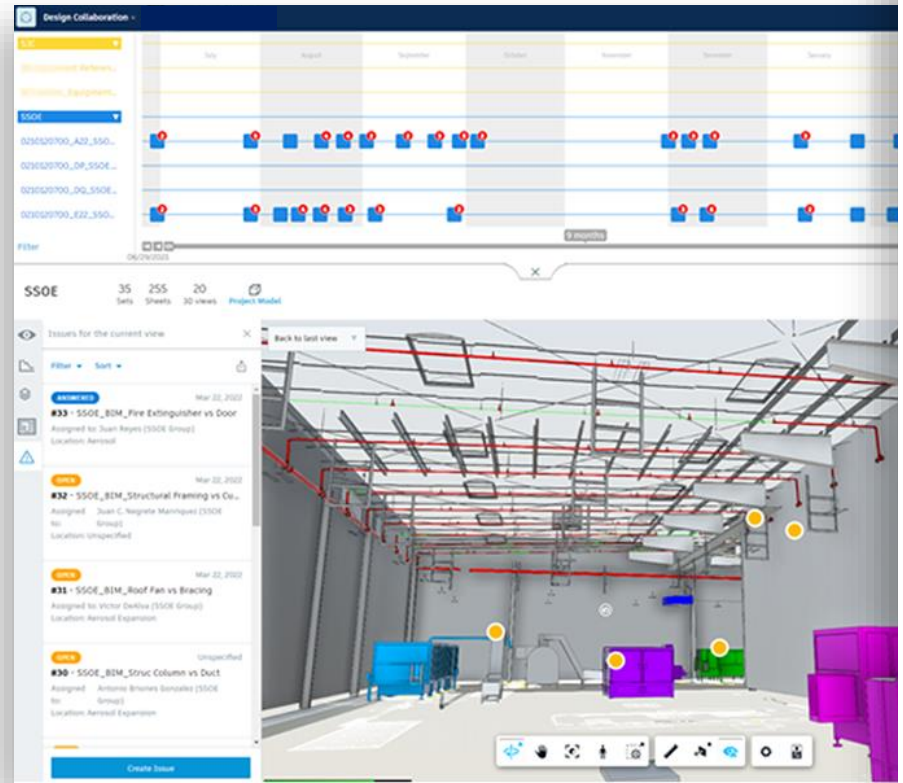
# Project Quality Enhancements



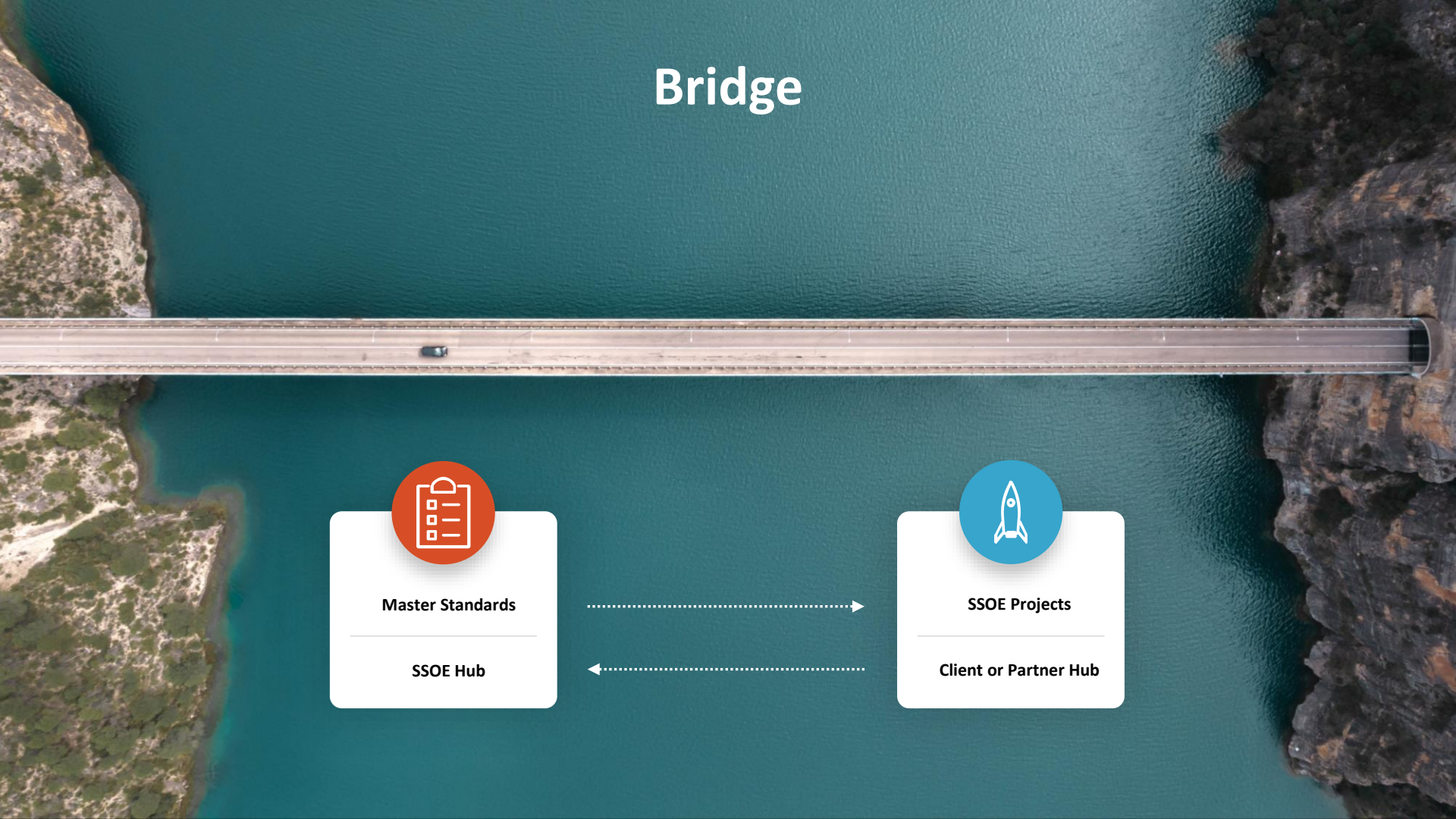
# Project Quality Enhancements



# Modeling Enhancements



# Bridge



**Master Standards**

**SSOE Hub**

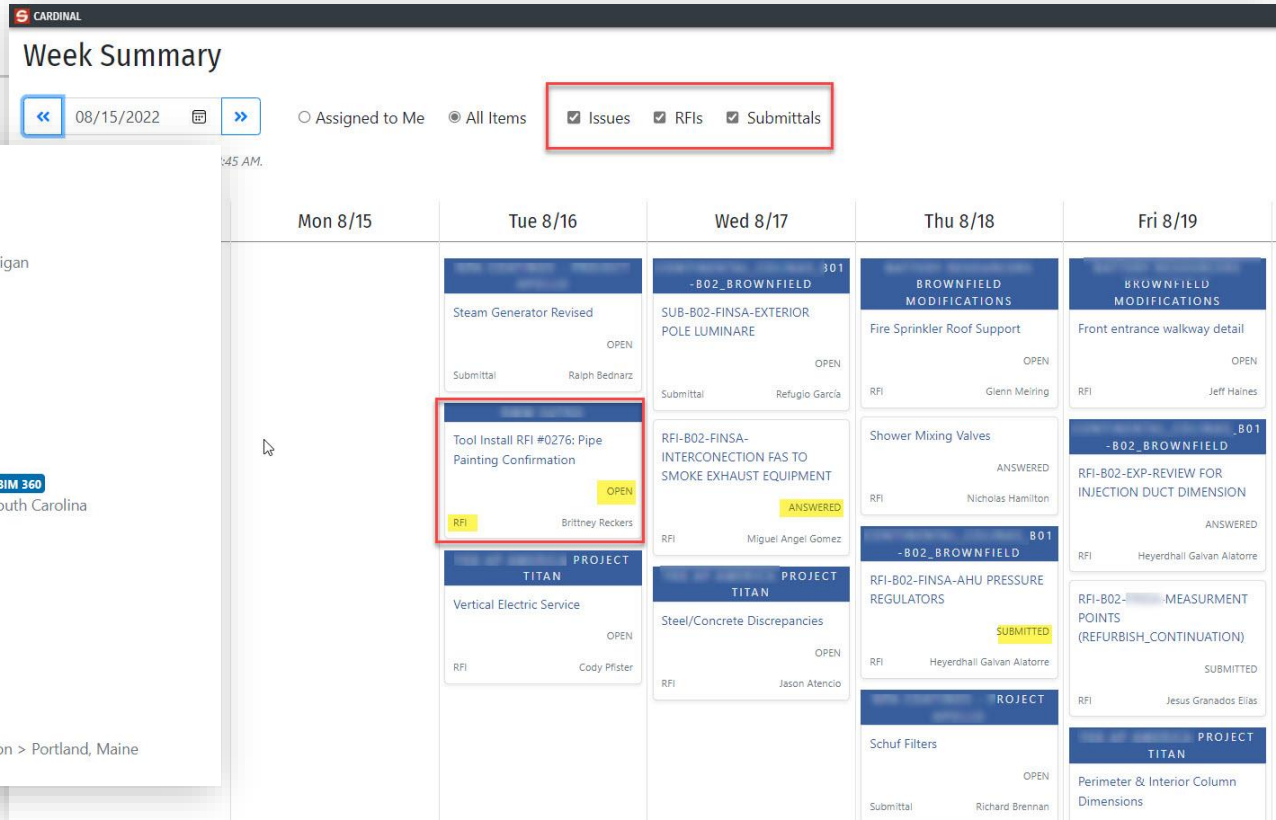
**SSOE Projects**

**Client or Partner Hub**

# SSOE Custom Data Visualization & Automations

## Project Search & Access Request

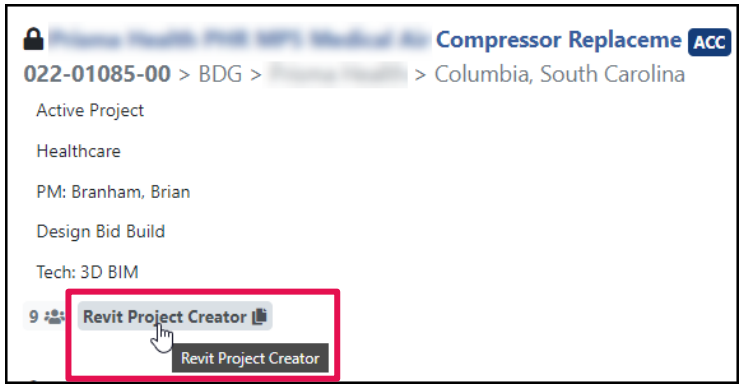
Multi-Project Weekly Summary
(Issues, RFIs, Submittals)

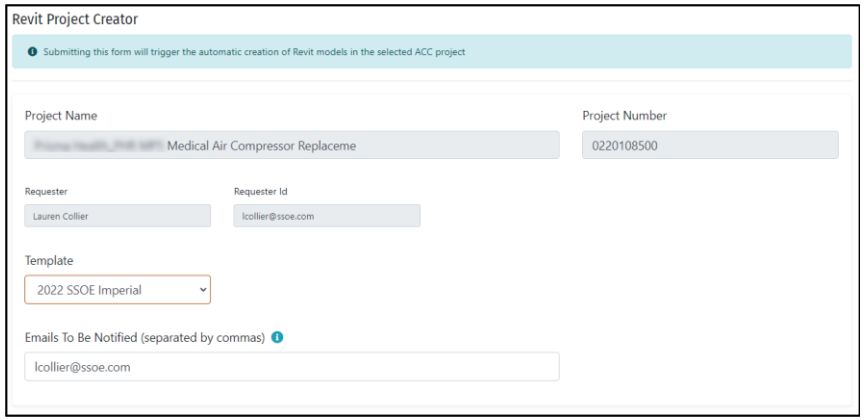


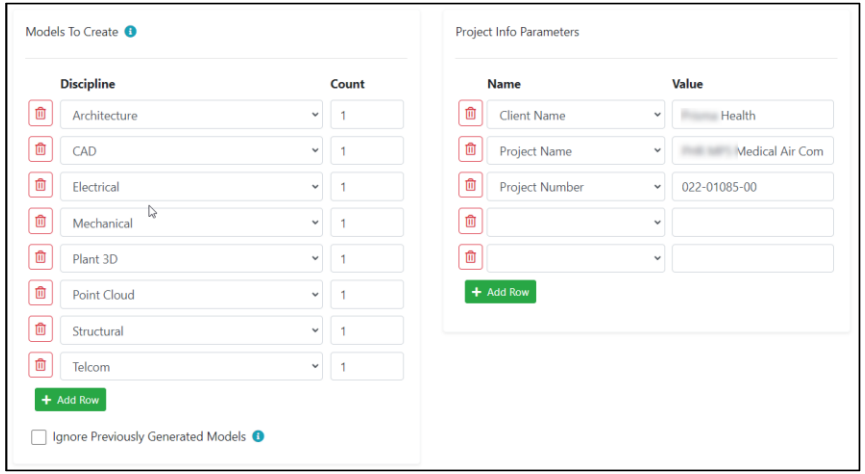
# Revit model automation

## Streamlining J.I.T. consistent set up

- Populates Project Data from our Data-Lake
- Uses Open Revit & ACC API's and Forge App
- Pulls Proper Revit Templates (ACC Templates project)
- Creates, Links, & Publishes Cloud Workshare in Standard Docs Location
- Initiates Design Collaboration



# The Must Haves

Checklist for Scalable Success

# Scalable Success

## Planning

- Build your Why & Purpose
- Pilot & Incubate in operations
- Build your Advocates in operations
- Build out multi-phase approach
- Executive Leadership

## Resources

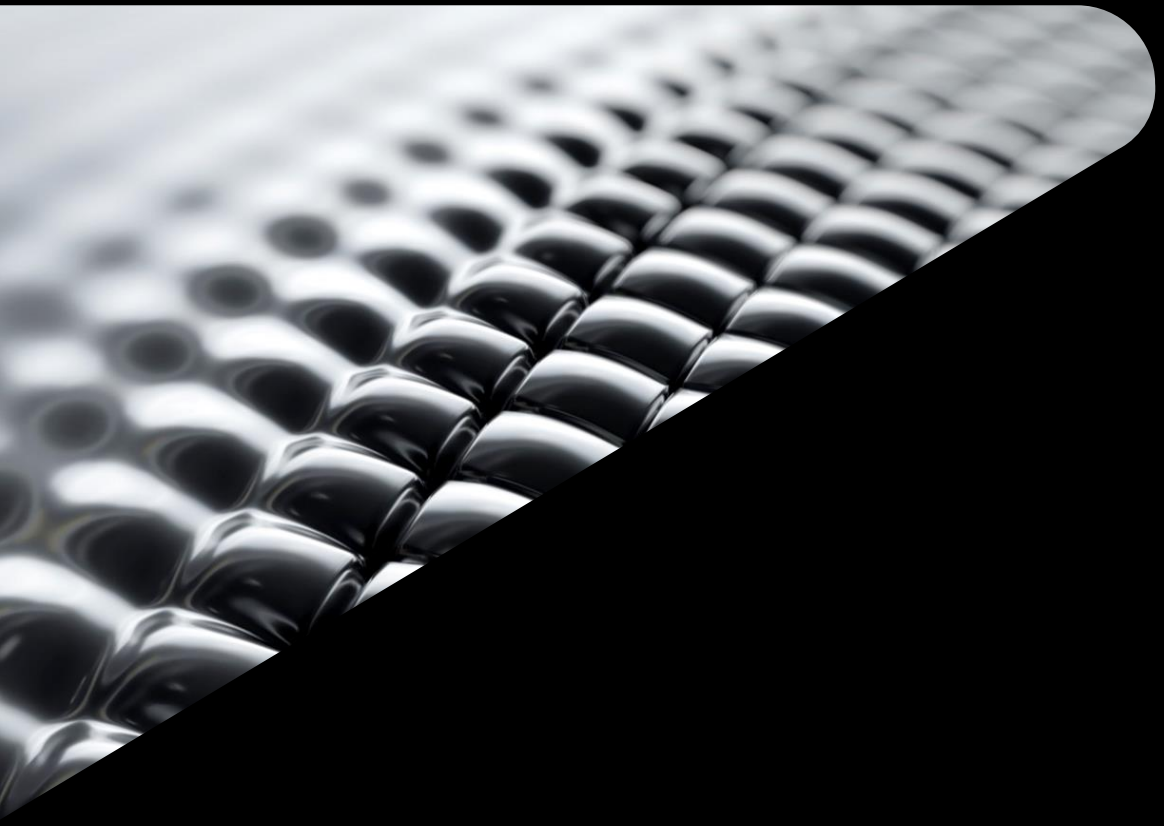
- Core Team
- Admin & Support Team
- Training & Communication
- Developers
- Build Experts – All levels of Project
- Budget – Team, Training, automation

## Implementation

- Leadership – All Levels
- Full-Time Team
- Desktop Connector – Testing, Software roll-out
- Sandbox spaces
- Internal & external training material & marketing campaigns (mixed media)
- Flexibility & Patience

## Sustaining

- New Feature – incubation / Pilots / Roll-outs
- COP's – Maintain Continuous Improvement
- Regular check-ins with operations
- Process re-definition and improvement

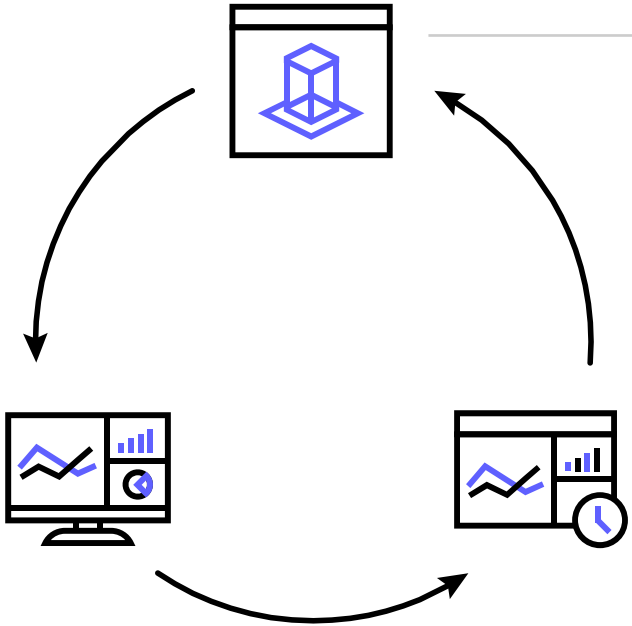


# The Future

ACC Phase 3

# Innovating more with ACC & Data!

- New ACC Features & Enhancements
- Desktop Connector 2.0
- Enhancing Design/Model Collaboration Workflows
- Issues, Photos, & Forms
- Assets (Design-Build-Buy-Operate)
- Schedule
- Meeting Minutes
- ‘Correspondence
- Take-off
- Auto-Spec



- Automations
  - Models / Drawings
  - Data – in/out
- Integrations
  - Bridge
  - 3rd Party Apps / Cintoo
  - SSOE Forge Apps
  - SSOE Data Lake

- Dashboarding
  - Enterprise
  - Market Portfolio
  - Client
  - Project
  - User

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