

CS473421 – What is Autodesk Construction Cloud?

Brandon Lacourciere

Director, Customer Success | @bcourse

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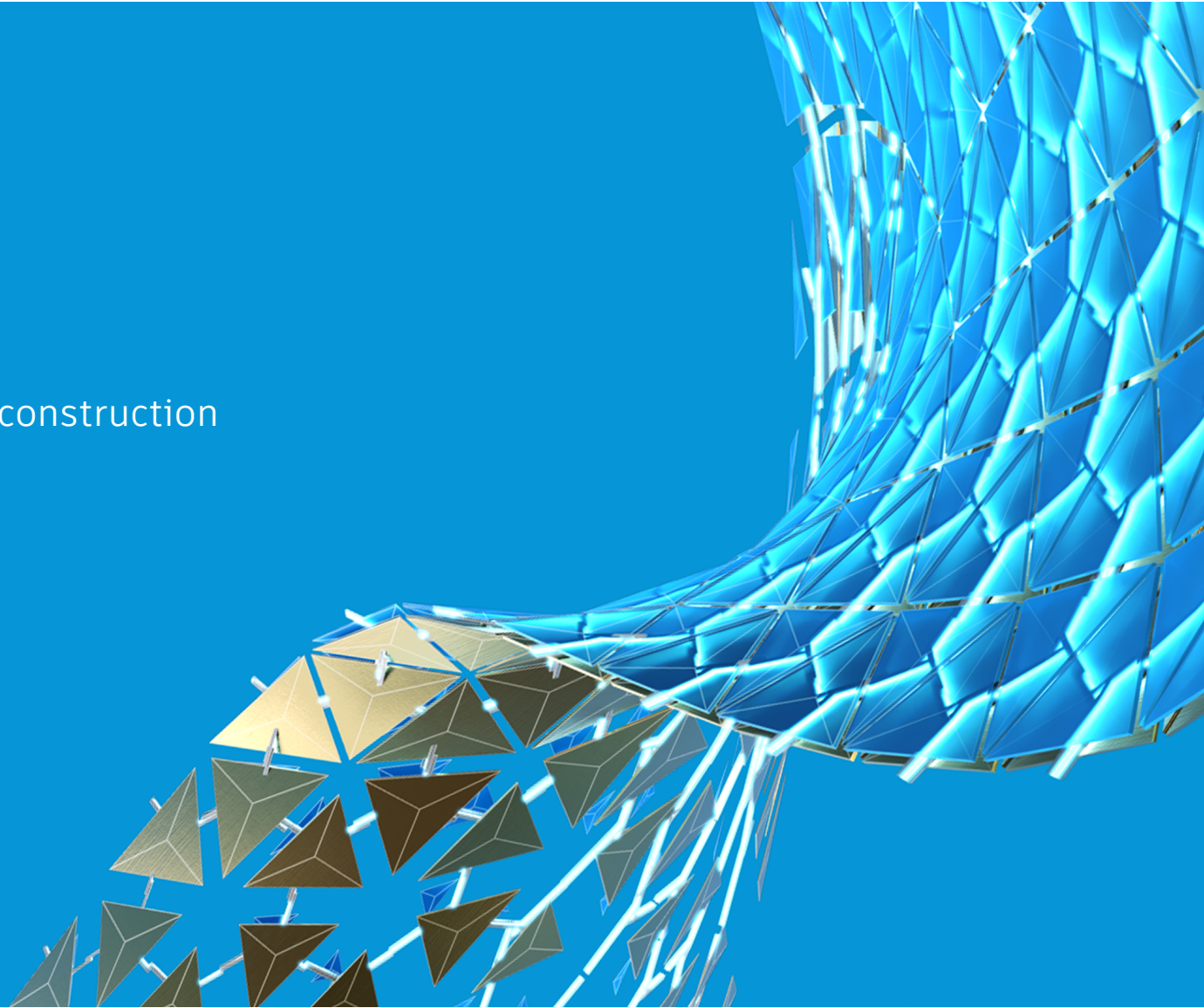
About the speaker

Brandon Lacourciere

Brandon grew up in the construction industry, joining his first framing crew at age 16. After receiving his degree in Architecture from Lawrence Technological University, he returned to the construction industry as an estimator and project manager. Noticing an opportunity to improve construction processes through BIM, he founded RevCore Construction Services, specializing in virtual construction and high definition laser scanning. Brandon has spent most of his career partnering with General contractors, union trades, and specialty contractors to solve complex problems on hundreds of projects. Today he is the Director of Customer Success for Autodesk Construction Solutions. He and his team are committed to solving industry challenges and helping customers optimize their workflows using the Autodesk Construction Cloud.

Agenda

1. Autodesk's journey in construction
2. Where we're going



CONSTRUCTIONS NOT EASY



Winning work

Broken Processes

Project Delays

Low Margins

Avoidable Rework

Rising Complexity

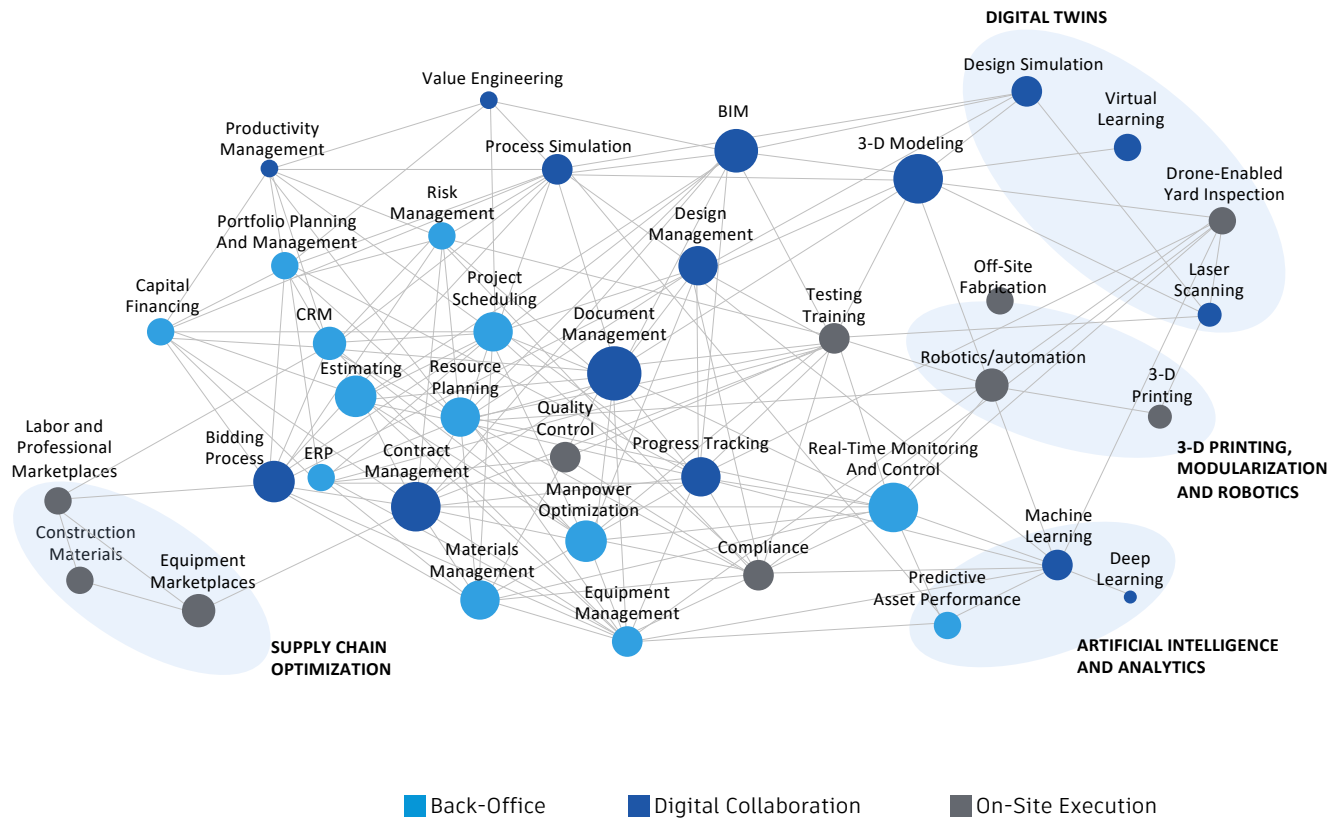
Technology



worse



Construction Technology Ecosystem



25%

construction companies use
5 or more applications

280B

industry annual
rework costs

30%

Of project **data created**
is lost at closeout.



Source: McKinsey Analysis

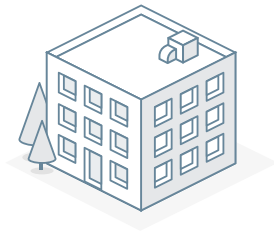
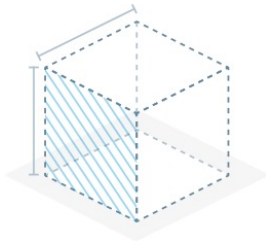
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AUTODESK CONSTRUCTION CLOUD™



AUTODESK CONSTRUCTION CLOUD™



DESIGN

PLAN

BUILD

OPERATE



Autodesk's Journey in Construction

Autodesk's Journey in Construction

 Design & Coordination

 Field Execution

 Project Lifecycle

 Connected Construction

2006

2008

2010

2012

2014

2016

2018

Guiding principles along the Journey



Listen to the customers



Seek solutions to
address your pain points



Know our own limits

Autodesk's Journey in Construction

Design & Coordination



SOCIAL MEDIA ARRIVES



Autodesk's Journey in Construction



Field Execution



Design & Coordination

2006

2008

2010

2012

2014

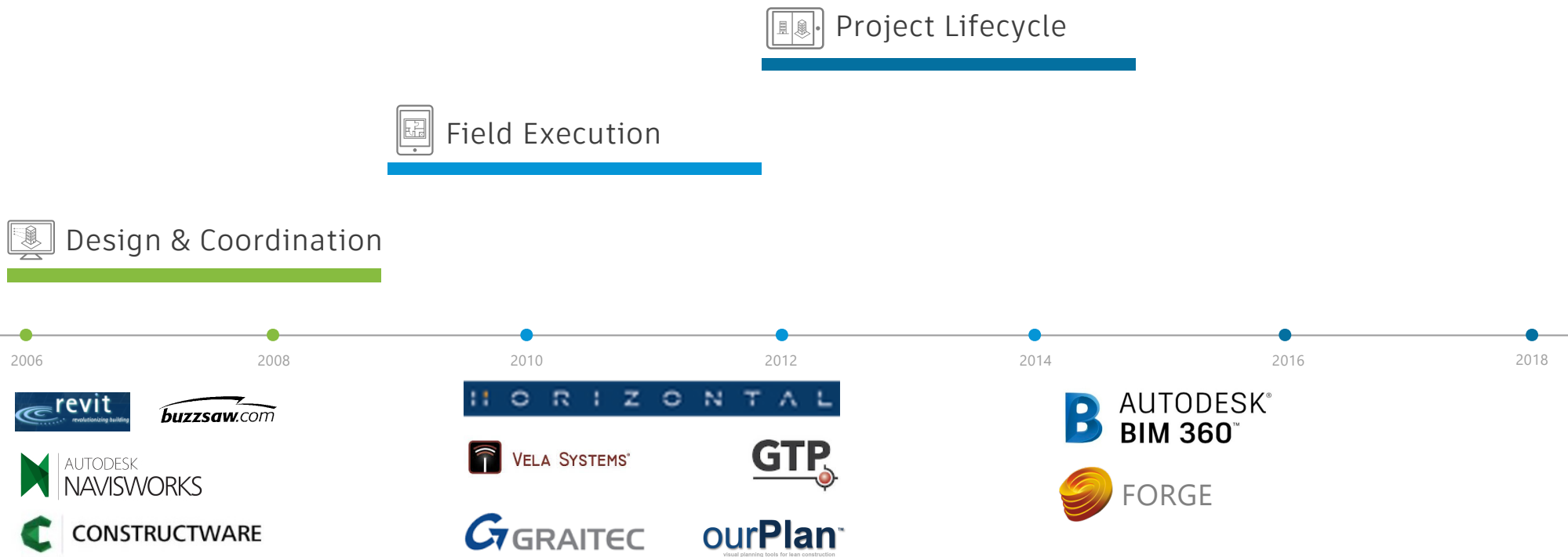
2016

2018



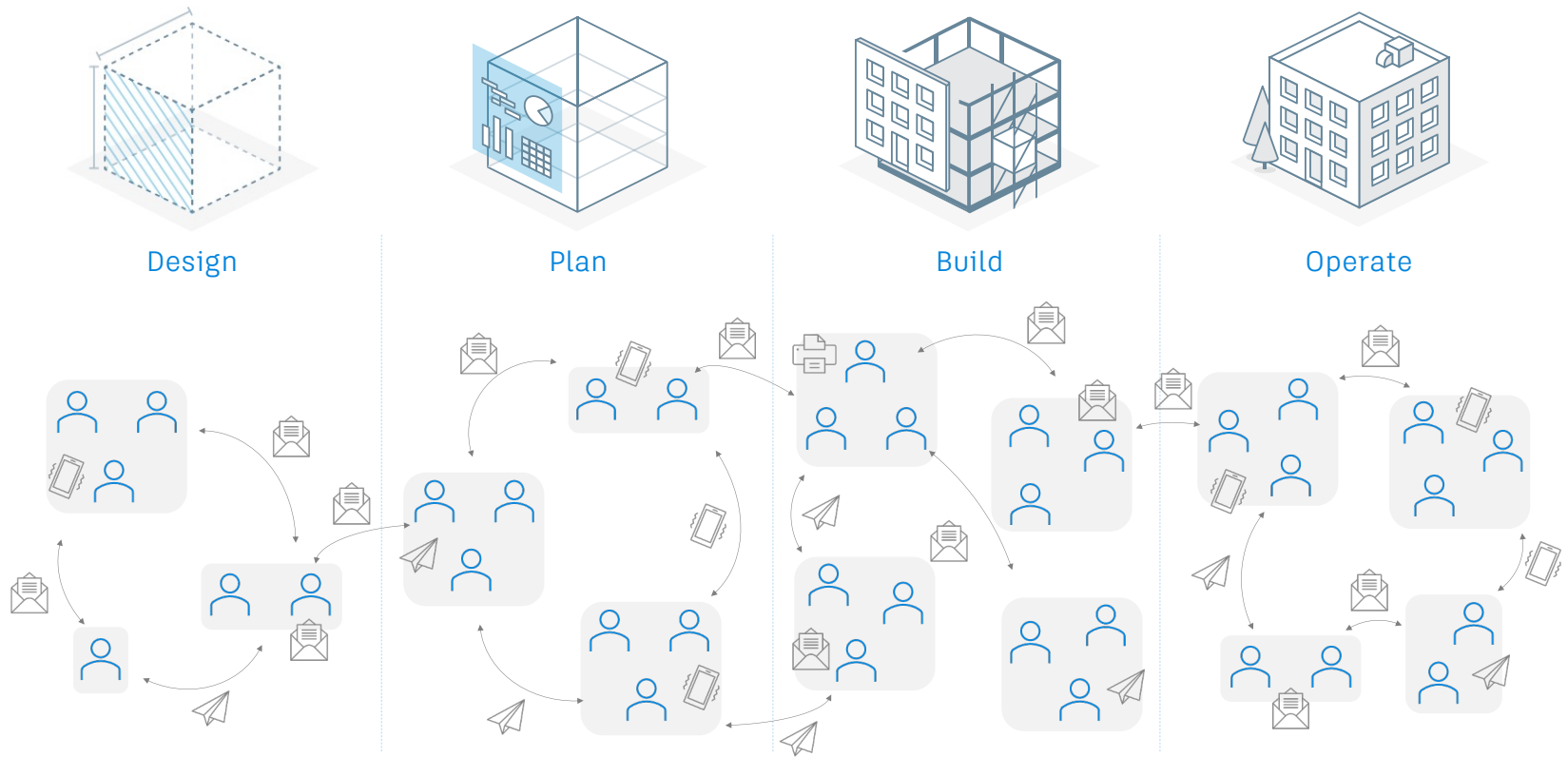


Autodesk's Journey in Construction





Construction is Collaborative, Yet Fragmented



>70% of the global construction industry is still working from traditional paper-based processes



Autodesk's Journey in Construction

 Connected Construction

 Project Lifecycle

 Field Execution

 Design & Coordination

2006

2008

2010

2012

2014

2016

2018



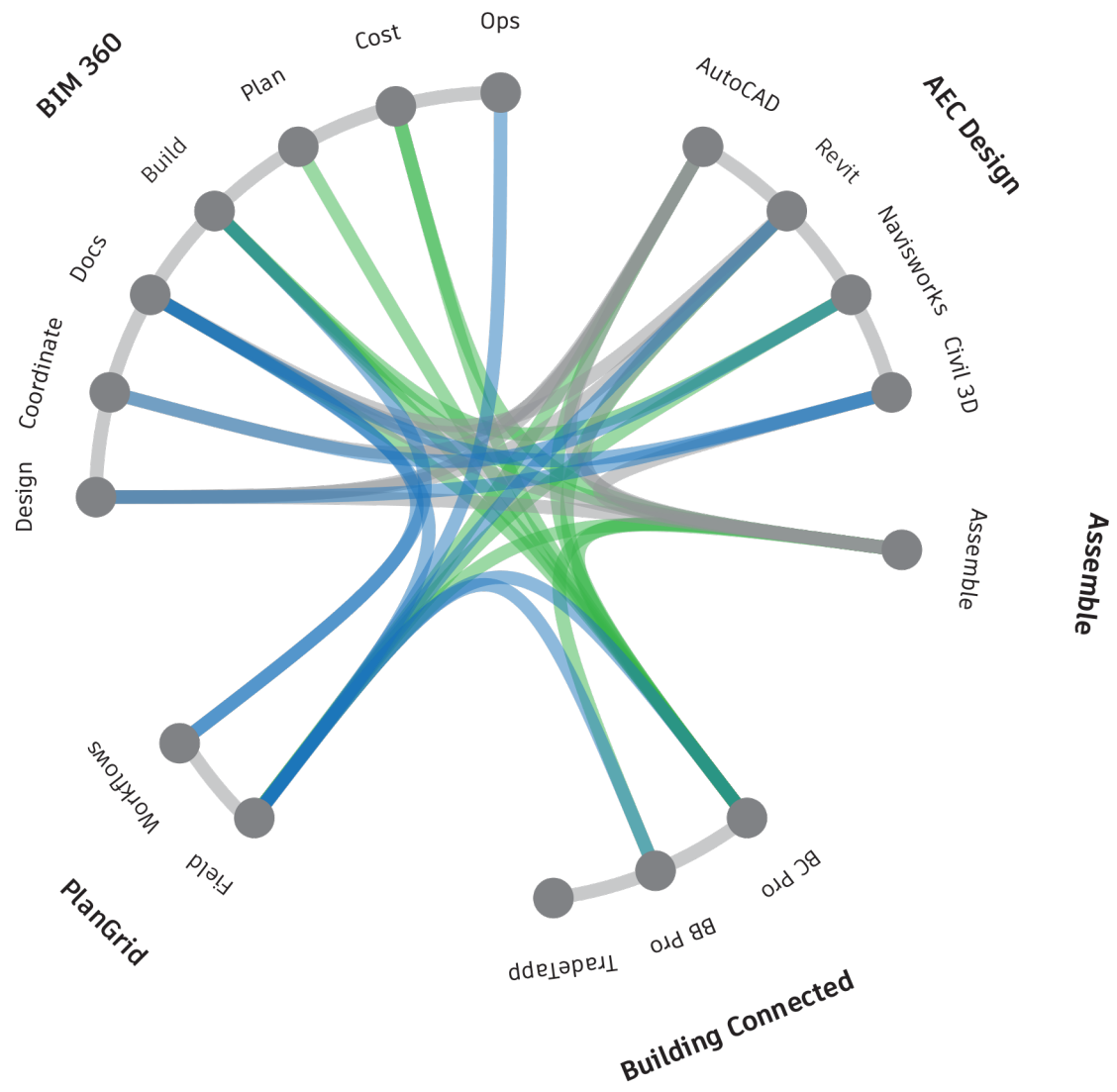


 assemble
AN AUTODESK COMPANY

 BIM 360™

 BUILDINGCONNECTED
AN AUTODESK COMPANY

 PlanGrid
AN AUTODESK COMPANY

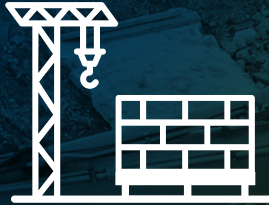




DESIGN



REVIT



PRECONSTRUCTION



BIM 360™ DESIGN



CONSTRUCTION



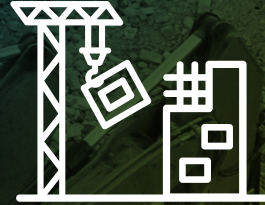
OPERATIONS



DESIGN



PRECONSTRUCTION



CONSTRUCTION



OPERATIONS



REVIT™



BIM 360™ DATA

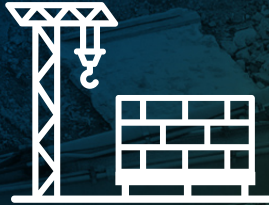


PlanGrid

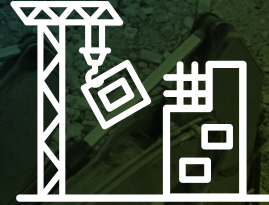
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DESIGN



PRECONSTRUCTION



CONSTRUCTION



OPERATIONS

 **BUILDINGCONNECTED**
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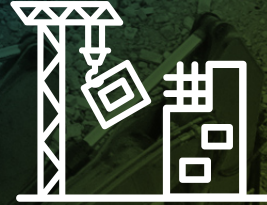
 **PlanGrid**
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DESIGN



PRECONSTRUCTION



CONSTRUCTION



OPERATIONS

 **PlanGrid**
AN AUTODESK COMPANY

 **BIM 360 OPS**

Skanska UK Connects the Field and Office



SKANSKA

Site Harpur Centre	Activity Scaffolding to side of building	Conducted by name Billy Tule	Signature 	Date 12/1/19
Risk Assessment No. 03	Review Date 02/01/2020	Revision No. 01	Conducted by name	Signature sign
Person Supervising Work Danny Board	Employer Access Scaffold	Approved by name	Signature sign	Date
Persons Exposed 0	Employees 4	Other Workers 0	Public/Visitors 0	Vulnerable Persons 0
Total at Risk 4				

Likelihood

5	5	10	10	20	20
4	4	8	8	16	16
3	3	6	6	12	12
2	2	4	4	8	8
1	1	2	2	4	4
1	2	3	4	5	

Severity

Rating 1 = Very unlikely
Rating 2 = Unlikely
Rating 3 = Likely
Rating 4 = Very likely
Rating 5 = Almost certain

Risk = Likelihood x Severity

Low Medium High

All risks must be reduced to as low as is reasonably practicable, by applying control measures that reduce the likelihood of an incident, severity of an incident, or both. Risks that are defined as 'high' after control measures have been applied, must be re-reviewed and further control measures implemented to reduce the risk to low or medium

HAZARD	1		2		3		4		5		6		7		8		9	
	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood	Severity
Erection of scaffold - falling objects/collapse of scaffold																		



AUTODESK BIM 360 | United Construction > Corporate Headquarters

Document Manager

Issues Templates

Search

ID	Type	Sub-type
33	Punch List	Work to
32	Commissioning	Commis
31	Commissioning	Commis
30	Quality	Quality
27	Coordination	Clash
26	Coordination	Clash
25	Coordination	Clash
23	Coordination	Clash

Showing 1 - 16 of 16

Issue #161

DETAILS ATTACHMENTS ACTIVITY

Tom Denby Dec 2, 10:52 AM

Attached a document from Document Library

04P_002.pdf

Tom Denby Dec 2, 11:03 AM

Attached a document from Document Library

04P_002.pdf

Tom Denby Dec 2, 11:10 AM

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04P_002.pdf



Autodesk's Journey in Construction

2020



Design & Coordination



Field Execution



Project Lifecycle



Connected Construction

2006

2008

2010

2012

2014

2016

2018





Digitization

Prefabrication

COVID-19

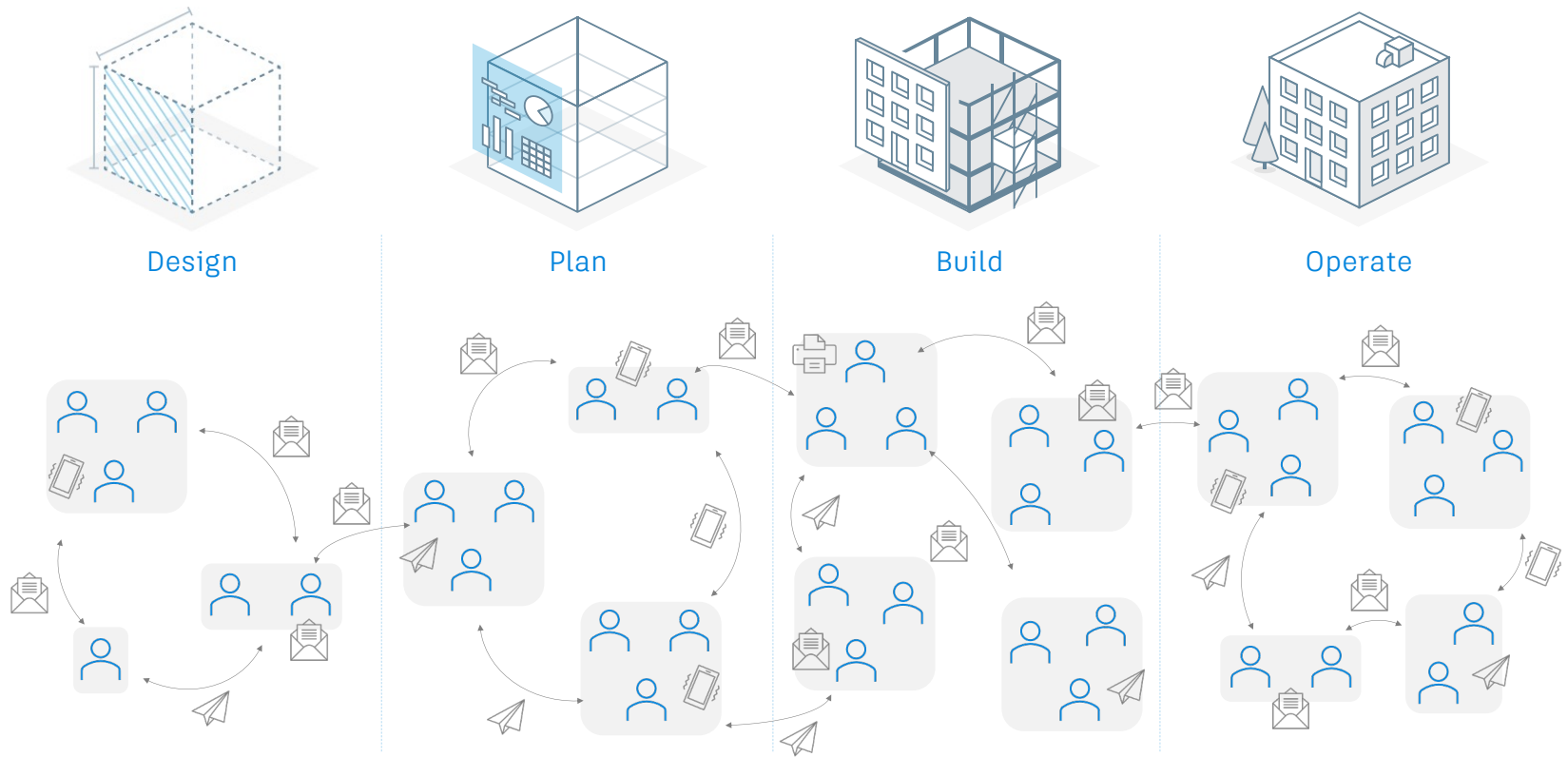
Skill Shortage

Green Construction

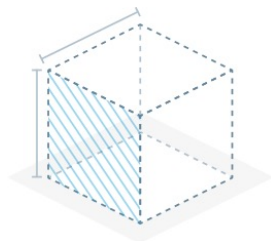
Augmented Reality



Construction is Collaborative, Yet Fragmented



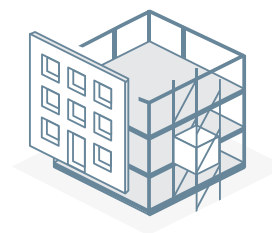
Connected construction technology can transform the business



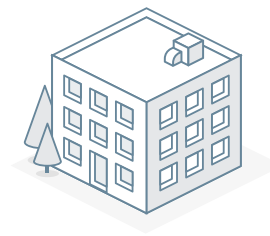
Design



Plan



Build



Operate

	Design	Plan	Build	Operate
Capabilities	• Design Authoring • Design Collaboration	• Model Coordination • Model Conditioning • Quantification • Bid Management • Qualification	• Project Management • Cost Control • Field Collaboration • Quality & Safety • Commissioning	• Facilities Maintenance • Asset Lifecycle
Shared Data	Models · Drawings · Issues · Specifications · RFIs · Cost · Assets · As-Builts			
Insight	Predictive Analytics · Benchmark Reports · Mitigation Strategies			
Network	Builders Network			



Unified Framework





AUTODESK CONSTRUCTION CLOUD™

DESIGN

AUTODESK
BIM COLLABORATE

AEC COLLECTION

PLAN

AUTODESK
QUANTIFY

AUTODESK
COORDINATE

BUILDING
CONNECTED

ASSEMBLE

BUILD

AUTODESK
BUILD

PYPE

OPERATE

BUILDING
OPS

AUTODESK DOCS

Models · Drawings · Issues · Specifications · RFIs · Cost · Assets · As-Built · Photos · Videos

INSIGHTS

Dashboards · Reports · Construction IQ · Data Connector

ADMINISTRATION

User Management · Autodesk ID · Project Administration

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AUTODESK CONSTRUCTION CLOUD™

AUTODESK BIM COLLABORATE

AUTODESK QUANTIFY

AUTODESK BUILD

Capabilities	Design Collaboration	Coordination	Quantification	Project Management	Cost Management	Quality	Safety	Project Closeout
Workflows	• Constructability Review • Change Visualization • Revit Collaboration	• Model Coordination • Constructability Review • Quality Planning • Issue Management	• Scope Analysis • 2D/3D Take Off	• RFIs • Submittals • Meeting Minutes • Daily Reports • Progress Tracking	• Contract Creation / Administration • Change Orders • Payment Applications • Forecasting	• Quality Planning • Quality Checking • Punchlists • Issue/Task Management	• Safety Planning • Safety Training • Safety Observations • Safety Inspections	• Commissioning • Turnover Documentation • Warranty Mgmt. • Final Completion • As-Built Survey
	Document Management							
Unified Data		Models · Drawings · Documents · Cost Items · Assets · As-Built · Photos · Videos						
Insights		Dashboards · Reports · Construction IQ · Data Connector						
Admin		Admin Console · Permissions · Project Setup · Templates · Notifications						



Single Point of Entry

AUTODESK CONSTRUCTION CLOUD

James Taylor ▾

Project Directory

All Projects ACC Project Templates

Create Project ▾

Search project name, address, organization or project code. 

Project Name ▴	Project Type ▾	Project Code ▾	Last Updated ▾
SF MoMa Museum Main St, Houston, Texas	 ACC	XXXXXXXXXXXX	6 hours ago
15550 Banner Behavior Health Hospital (BBHH) Main St, Scottsdale, Arizona	 ACC	XXXXXXXXXXXX	Feb 10, 2019
15592-SJHMC Absorption Chiller Replacement Main St, Scottsdale, Arizona	 BIM360	XXXXXXXXXXXX	Nov 24, 2018
18600 - SOMC Vacuum Pump Replacement  Main St, Phoenix, Arizona	 PlanGrid	XXXXXXXXXXXX	Sept 14, 2019
19628 - ADC Tiberius - Chiller Cooler Expansion Main St, Phoenix, Arizona	 ACC	XXXXXXXXXXXX	Feb 10, 2019

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Progress Tracking

AUTODESK CONSTRUCTION CLOUD

Build

SF MoMa

AI56.1 (90% Progress Set - Architecture)

Progress Tracking (4)

Hide progress markups

Ductwork - Phase A - Zone 1... Commissioned
Aug 18, 2020 by Brandon Lacourciere

Ductwork - Phase A - Zone 1... Installed
Aug 18, 2020 by Brandon Lacourciere

Ductwork - Phase A - Zone 1... Arrived on Site
Aug 18, 2020 by Brandon Lacourciere

Ductwork - Phase A - Zone 1... N/A

GENERAL NOTES

1. Provide ductwork and suspension of perimeter suspension panels and all ceiling type ACT-6 (200112), 100, 150, and 200 series (100, 150, 200).
2. Center suspension panels in 24" ceiling panels.
3. Center panel and location of panel spacing to meet current code standards.
4. Provide 1/2" Assembly (AST) (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
5. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
6. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
7. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
8. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
9. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
10. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
11. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
12. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
13. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
14. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
15. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
16. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
17. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
18. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
19. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.
20. 100, 150, 200 series (200112) 100, 150, 200 in hydraulic ceiling applications at termination of ductwork at lower floor.

Ductwork - Phase A - Zone 1

Remove

Ordered

Arrived on Site

Installed

Commissioned

Complete

Object Type

Changing this object will reset previously tracked data

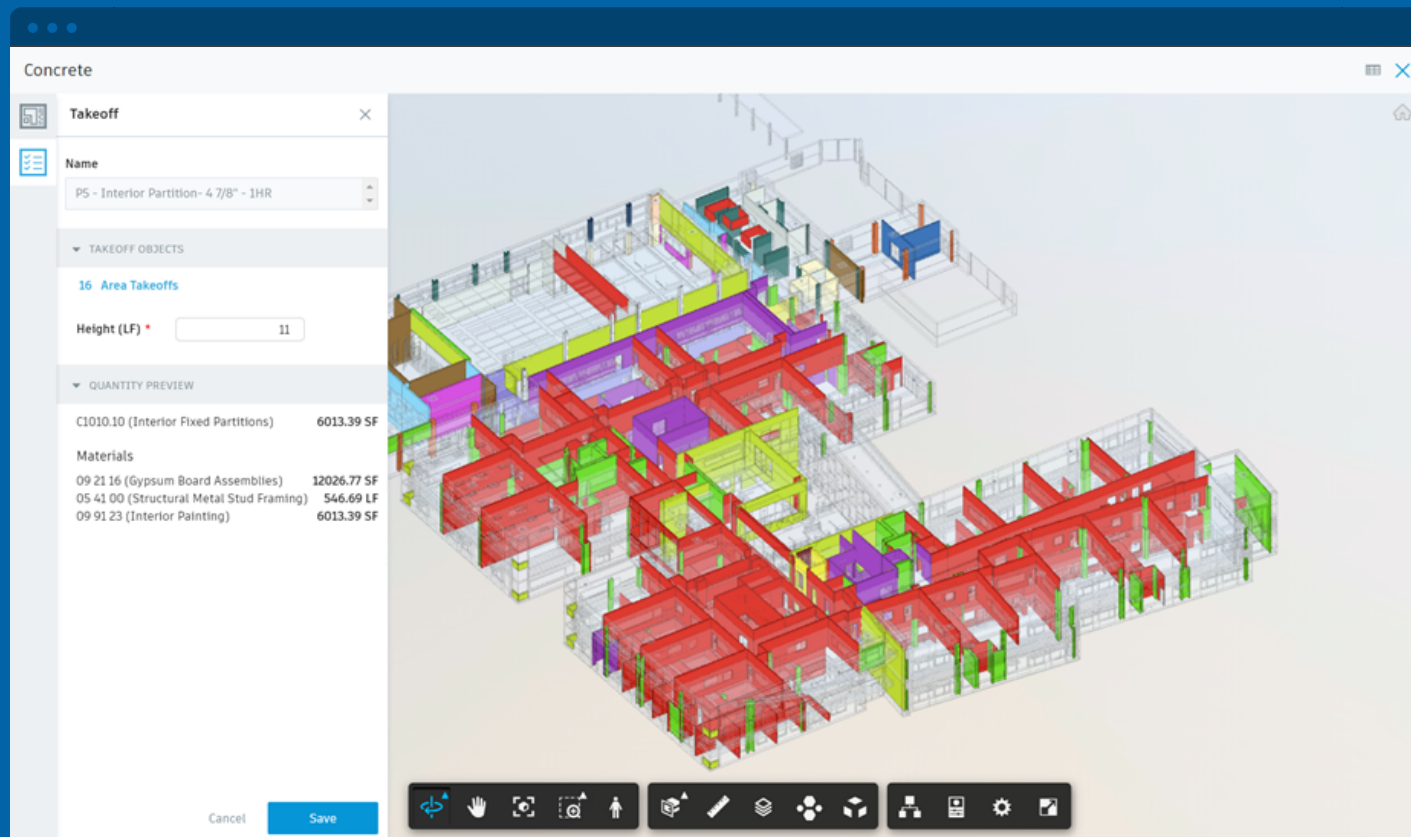
Ductwork - Phase A - Zone 1

Cancel

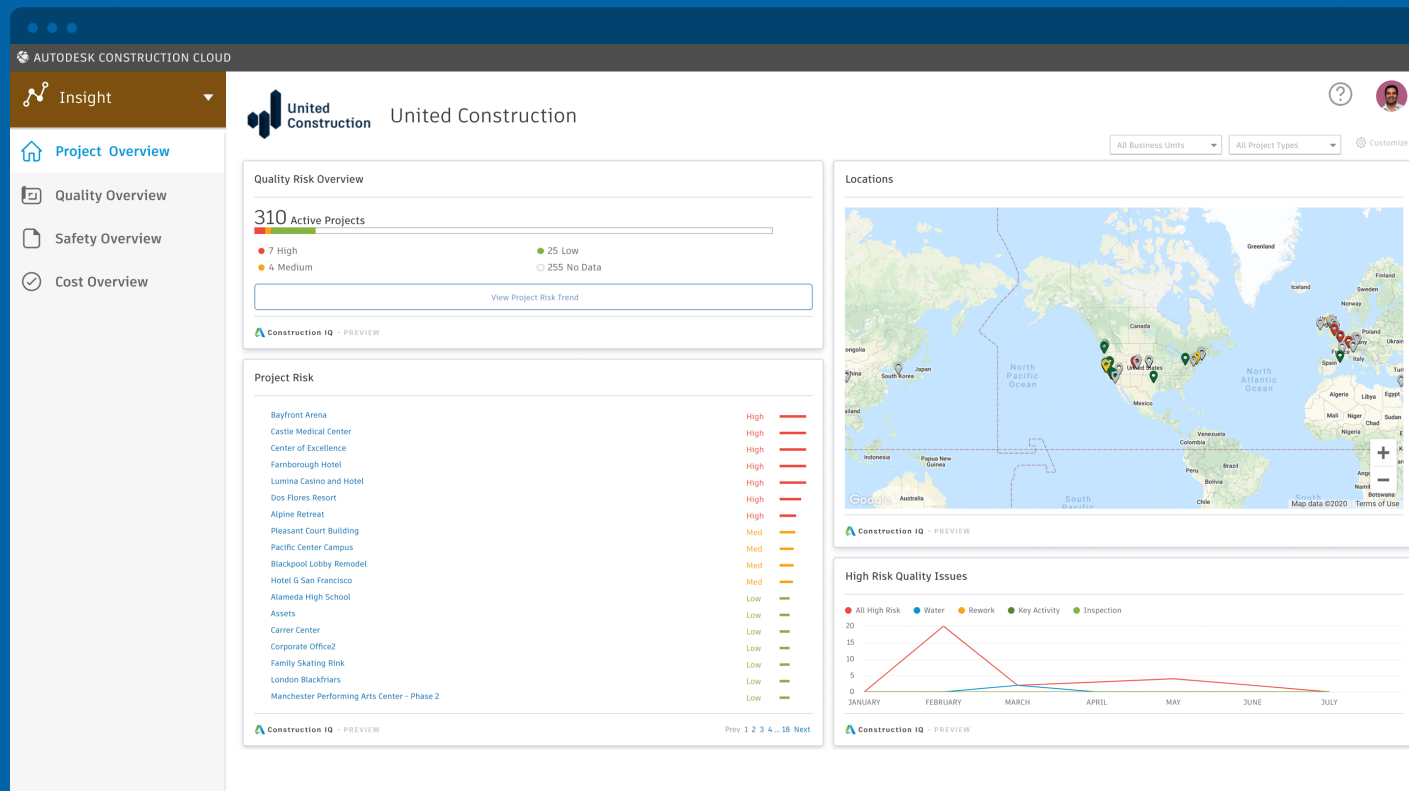
Submit



Quantify



Cross-Project Insights





The Next Phase of the Journey



Autodesk Acquires Pype

 AUTODESK + aurigo®



 AUTODESK



bridgit



Vermont Public House
(Construction)

Arborview Tower
Active

Essex Assisted Living
(Pre-construction)



Makenzie Thomas
Site Superintendent

Over allocated

June 1 - Aug 26 200%

Project	Role	%
Maplewood Mall	Superintendent	100
Essex Assisted Living	Superintendent	100



Status includes: Active Build type includes: High-rise residential

Project Name	April	July	Today	October
100 Victoria	Apr 1 - July 31			
Sr. Project Manager				
Project Coordinator				
Project Engineer				
210 Olive St.	Aug 3 - November 31			





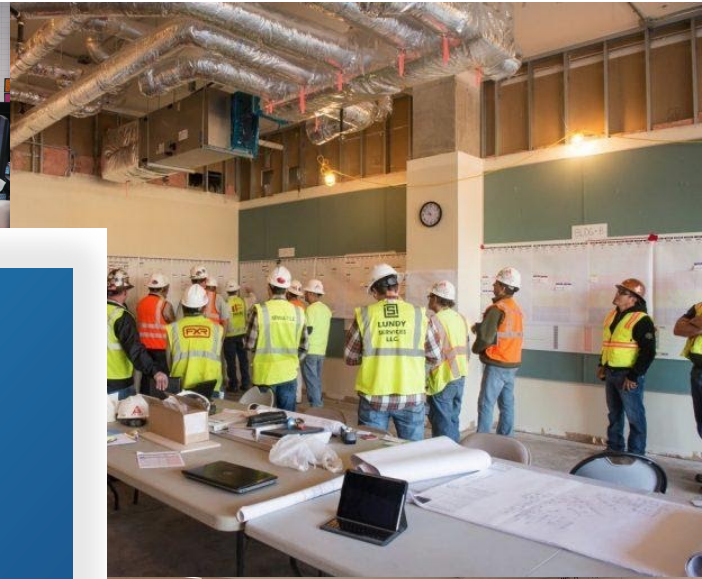
**Listen to our
customers**



**Seek solutions to
your pain points**



**Know our own
limits**



OVER 1200 Improvements

PlanGrid Sheets

- Revit Plug-In Fix
- OCR for INTL Languages
- Trim Sheet Numbering for ISO-19650

Forms

- Integrate in technical bootstrap
- Template Types: set, edit, filter
- Native Forms: Report Validation
- Native Forms: Date & dropdown menu items
- Export emails migration to Notifier
- Customer API: Field Report Template
- Custom Forms API
- Draft Awareness for Reviewers
- Sequential editing in Field Reports

RFIs on Mobile (Android)

- Step-Back
- Create RFI from Sheet Viewer

Site Vision

- Media Thumbnails
- Custom Photo Reports
- Showing RFI & Field Report photos in gallery

Submittals

- Submittals to the Field - PG
- Filter & Sort on Mobile
- Default Watchers

API

- Public APIs & Adding Submittals Connected to ACC
- Connect

BIM 360 Docs

- Document Management
- Public URL / Share File
- Permissions API
- Vector PDF Improvements

BIM 360 Build Issues

- Issue Templates
- Pin Issues to Locations
- Enhancements

RFIs

- Edit closed RFIs
- RFIs on Mobile (Android)
- Modify RFI Pushpin
- RFI & PCO Link
- Permission Change
- Improved Status Visibility
- Submittal Workflow Enhancements

Cost Management

- Pay Applications
- Public APIs
- Email Integration
- History/Milestone Visibility
- Public APIs ACC Connect
- Cost Budget PDF Report - Phase 1
- Supplier & Owner Access
- Tracking Actual Costs
- Document Generator Creates PDF Reports
- Cost Budget PDF Report - Phase 2

Assets

- Asset Module
- Link from Issues
- Checklists & Create Asset via Mobile

Submittals

- Enhanced Submittals List Experience
- Contractual Date Tracking - Phase 1
- Improved Status Visibility (web & iOS)
- Submittals to the Field - BIM 360
- XLSX Export
- Enhancements
- Tracking Contractual Dates - Phase 2

Item Based Submittals Workflow

- Revision Closed Submittal
- Reduced Email Cluttering

Meeting Minutes

- Meeting Minutes UI/UX
- Adding Existing Item to a Meeting Item
- Link Issue or RFI to Meeting Item
- Rich Text Formatting
- PDF Export Localization
- Zoom Integration
- Description Editor - Advanced Text Editing

API

- RFI & PCO Link
- RFI & PCO Link

Checklists

- bringing Android to parity (some also on iOS)
- Several Improvements
- Archiving checklists & email notifications*

BIM 360 Submittals

- Issues
- Mobile App
- Improved file processing error handling

Coordination

- Project Files
- Global Coordination Forms API
- Clash Enhancements (couple Clash View For Screen Shots)
- Navisworks Issues Engine*
- Clash Matrix Enhancements*
- Model Viewer Enhancements*

BIM 360 Insights

Construction IQ

- User Risk for Executives
- Safety Risk Factor Card
- 2 New Reports
- Issue Library Enhancements
- Issue Report Enhancements
- Data Collector: Add RFI Workflow
- Customizing Executive Insights (Partner Card Additions)
- Daily Logs Report Enhancements
- Add Custom Attributes Data Download, Issue /
- Customizing Executive Insights (Partner Card Additions)
- Project Controls

Insights

- ESRI Partner Card
- Intelliwave Partner Card
- Raken Partner Card
- Project Level Docs

BIM 360 Admin

- Project Services
- Scaling for Large Projects
- Quantification & Schedule Integration
- COVID Tracked Assets

BCPro

- Autodesk ID*
- Bidder history in Reports
- Additional Items section in Bid Leveling
- Performance improvements to view the Bid
- Bidirectional Sync
- Autodesk ID - Global
- Dashboard
- Suggested groups
- New bid forwarding email
- Office-level trades
- BC Pro x BB Pro Integration

- Customize columns
- Change opportunity request type
- Faster import of bids
- Enhanced search for opportunities*
- Enhanced new opportunity creation*
- Takeoff across sheets
- Adding Color Picker

BIM 360 Plan

- Linked Activities

TradeTap

- User & Project Data
- TradeTap / BC Pro - Vendor Unification *
- Public Link to Share*
- Record 'Request for Corrections' Message*
- None' Qual Status Filter*
- Display 'Contacted By' BC User Name*
- New Prequalification Fields in BC*
- New 'Reviewers' Column*
- Qualification Status Timestamp*
- Enterprise Certification Expiration Date*

Assemble Reports

- Power BI Improvements
- User & Project Data
- Revit Publishing Fix

Aurigo

- Aurigo / PlanGrid Integration
- Command Resnap





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