

How to automate repetitive tasks on BIM 360 to improve cloud collaboration

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Regional Digital Design Manager – [KEO International Consultants](#)



QUEST Cost and Quantity
Surveying Services



Planners and
Landscape Architects



Sustainability and
Environmental Services

black mule

We Articulate the Future

A Brand to Trust



Architecture & Design +
Engineering Solutions

Infrastructure

Project Management +
Construction Management

Sustainability Consulting
+ Green Solutions



Allied Practices



BIM + Digital
Innovation
Advisory Services

Planning +
Landscape +
Urban Design

Quantity
Surveying

57

Years of
Experience

09

International
Offices

1700

Professional
Staff

20+

Countries

Bahrain, Bangladesh, Bulgaria, Cape Verde Islands, China, Egypt, India, Kazakhstan, Kuwait, Lebanon, Malaysia, Morocco, Oman, Pakistan, Portugal, Qatar, Saudi Arabia, Serbia, Tunisia, UAE, Uzbekistan

BIM ADVISORY SERVICES

Digital Technologies, Digital Transformation and Innovation for the Built Environment

ASSESSMENT

BIM Maturity Assessment

- As-is analysis + Recommendations

IMPLEMENTATION

- Organization
- Technology Hardware and Software Collaboration and Communication Information Exchange
- People Assessment + Training
- BIM Standards
- Software Standards-Templates-Content
- QAQC Standards
- Other Technologies as Applies

MANAGEMENT

- Projects
- Construction
- Asset Owner
- Technologies
- People



International
Organization for
Standardization

AUTODESK
Services Marketplace
Provider



Class Summary Stats

8

Identify options

To automate
tasks and
interoperability

7

Automate tasks

Currently done
manually and
save time

5

Interoperability

Integrate other
platforms with
BIM 360

4

Project migration

On-Premises files
to BIM 360
migration

**Identify the different
options available to
automate tasks and
integrate with other
tools and BIM 360**

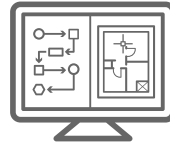
Type of options available

Automation and integration

3 Types of tools available



Web based platforms



Desktop based
applications



Cloud programing
platforms

ACC Connect for Autodesk® BIM 360®



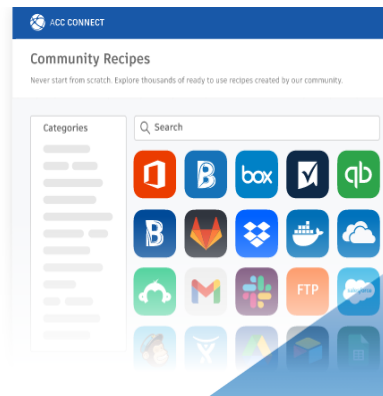
(Workato) Cloud programming platform



A connected experience
across all your applications.
Integrate software
applications with ease

Make integrations work for
you.

Tailor integrations to fit your exact needs and easily update
them as your business scales.



With a library that allows
you to build integrations
between 200+
applications

On premise to Cloud Transfer and Cloud to Cloud Migration Solution. Web based platform



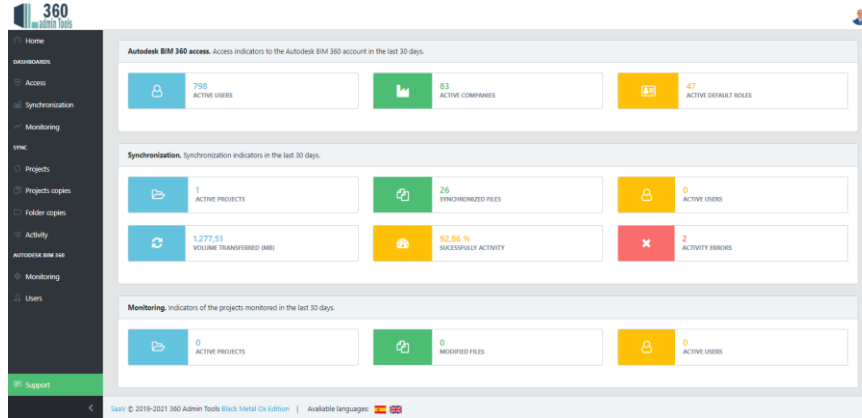
Supporting over 20 cloud storage providers such as Autodesk BIM 360, OneDrive, Office 365 and many more

Companies and users can migrate their data in a fast and secure manner while continuing to work on their source systems

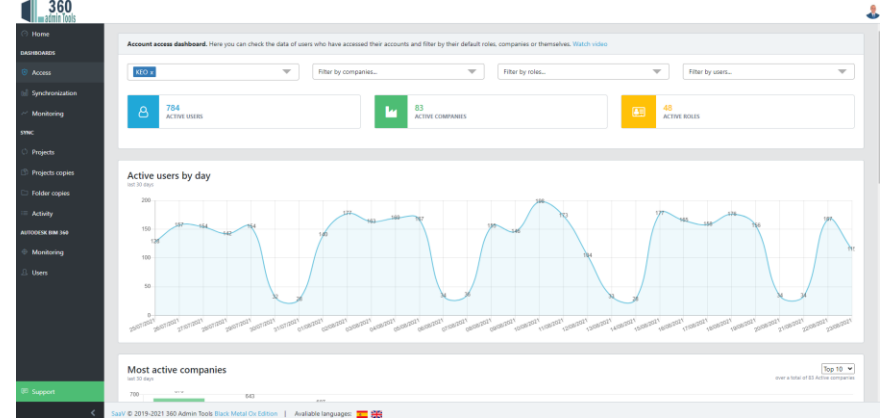
360 Admin Tools



Facilitates administration, migration, transformation and real-time information tasks.
Web based platform



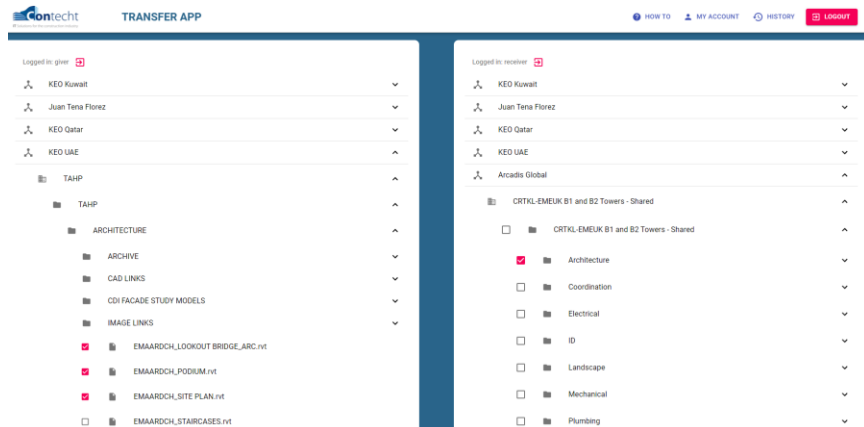
Allows you to transfer information between projects, accounts and hubs and other cloud storage platforms



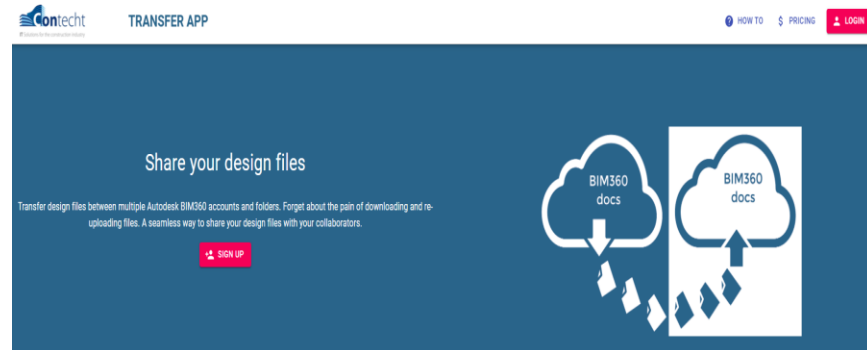
Manages tasks of massive users' assignments to different projects. Including real time status dashboards

Transfer App

Transfer design files between different Autodesk® BIM360® accounts or projects.
Web based platform



You no longer have to
download your files locally
and re-upload them on the
desired destination

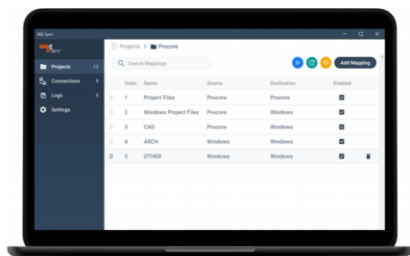


Transfer app allows you to
use your BIM360 login
credentials to access your
projects, hubs and accounts

360Sync™



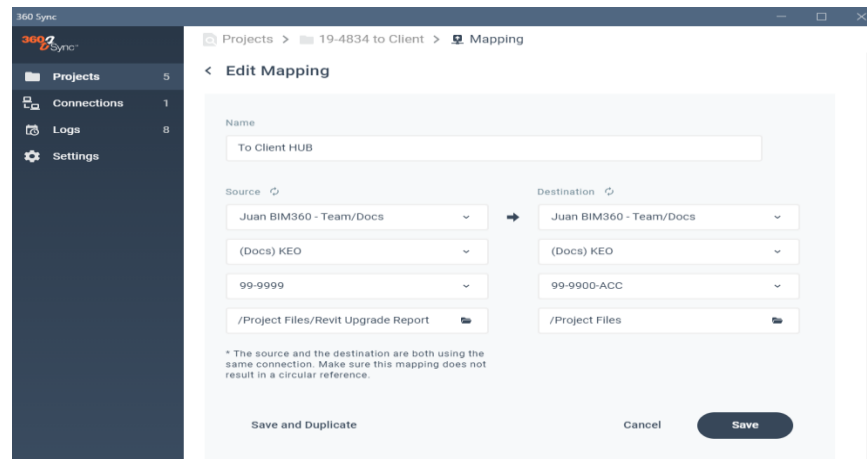
Automatically transfers, organizes and archives project files across applications.
Desktop based application



Simple. Smart. Powerful.

Your entire team can now share constantly updated information from multiple platforms and applications. Available through an affordable, unlimited access license, 360 Sync takes less than 30 minutes to set up and then works behind-the-scenes, so you never have to think about file management again.

Automatically update your BIM
360 Libraries whenever you
upload or update a file to your
computer, server, or BIM 360

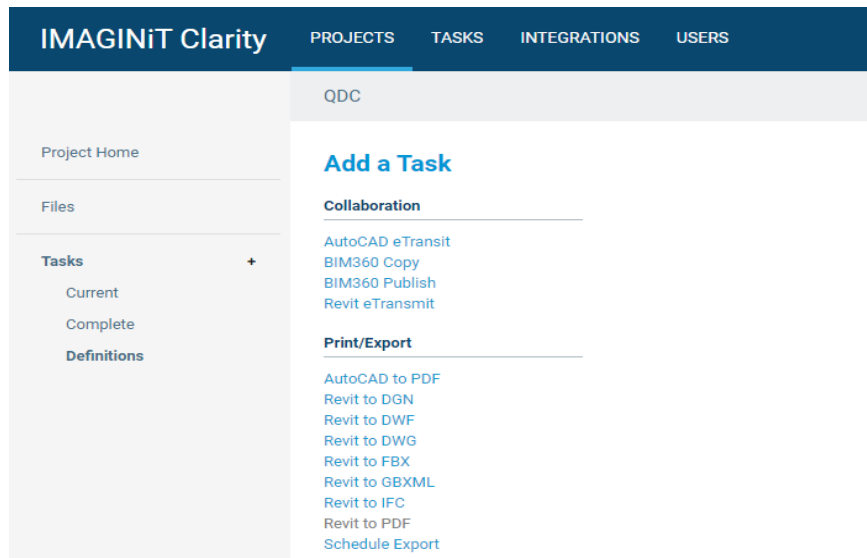


Save time and effort by
automating the file transfer
process and eliminating
double data-entry

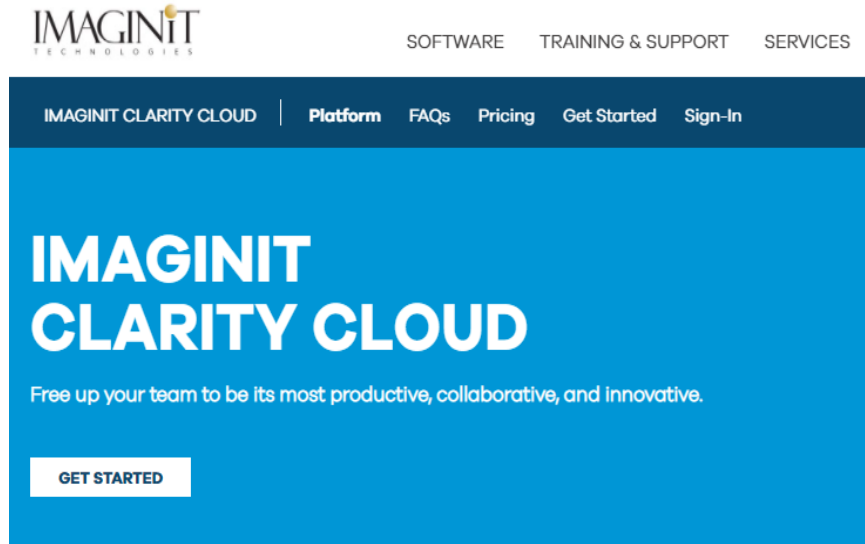
IMAGINiT Clarity Cloud



Task automation that run in the cloud with no on-premise hardware. Web based platform



Schedule tasks to run automatically, export views and sheets to multiple formats



Fully hosted BIM automation platform that takes care of repetitive Revit, AutoCAD and BIM 360 tasks

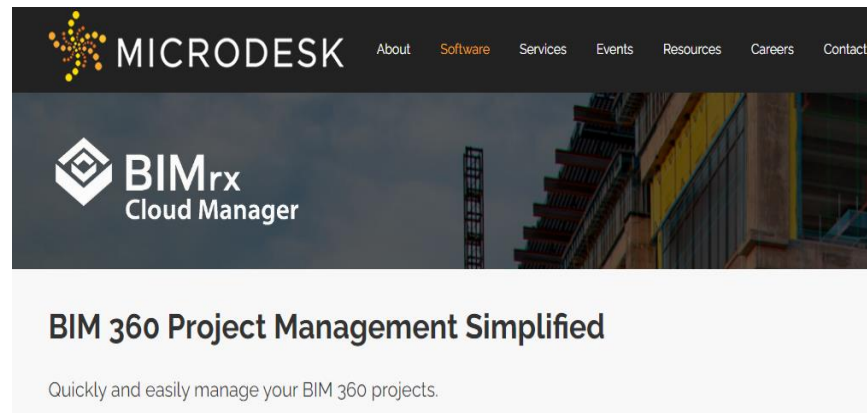
BIMrx Cloud Manager



BIM 360 Project Management simplified. Desktop based application



Automate Model Publishing,
Uploading & Downloading with
Custom Integration,
Intelligently Sync Local Folders
and Files to/from BIM 360



Manage multiple projects
simultaneously and enable
project data synchronization
between intranet servers
and the cloud environment

Autodesk Forge®



A cloud-based developer platform from Autodesk. Web based platform



Viewer

Render 3D and 2D model data within a browser. The models can come from a wide range of applications such as AutoCAD, Fusion 360, Revit, and many more.



Autodesk Construction Cloud

Integrate with the new unified Autodesk Construction Cloud platform to create seamless construction and field management workflows with builders' critical documents and data.



Design Automation API

Leverage the Forge Platform to automate repetitive tasks and run scripts on your design files in the cloud.



BIM 360 API



Data Management API



Reality Capture API



Token Flex Usage Data API



Design Automation API



Model Derivative API



Webhooks API

Automate processes, connect teams and workflows, or visualize your data

BIM 360 Account Admin settings



Apps and custom integrations

AUTODESK CONSTRUCTION CLOUD™ CONNECT

Account Admin - KEO - KEO - Juan Tena Florez

PROJECTS MEMBERS COMPANIES ROLES ANALYTICS SETTINGS APPS

Featured Apps
My Apps

 360 Admin Tools Scheduling & Productivity	 360Sync™ Scheduling & Productivity	 4D-planner Integration
 AKULAR Connector Integration	 Attiled - Fabrication Center Plumbing Design	 APE Mobile Connector Field Management
 ArcGIS Pro Field Management	 ArchiveHub Accounting / ERP	 Arkio Building Performance Analysis

AUTODESK CONSTRUCTION CLOUD™ CONNECT

Account Admin - KEO - KEO - Juan Tena Florez

PROJECTS MEMBERS COMPANIES ROLES ANALYTICS SETTINGS APPS

Go to unified projects

Profile Business Units Custom Integrations Admin Activities

AUTODESK Forge
Custom Integrations are applications your company has developed to expand BIM 360 capabilities.
Visit BIM 360 APIs on Forge Platform to learn more about account level APIs.
[Add Custom Integration](#)

 IMAGINIT Clarity Cloud Details Active	 Batch export PDF with markup Details Active	 Autodesk Tandem Details Active
 360 SYNC Details Active	 Voice 360 Details Active	 BIM Export to Excel Details Active
 BIM Visual Reports	 Projects Export	 BIM QR Markup

[Feedback](#)



**Automate tedious tasks
that are currently done
manually and save time**

Exporting PDFs with Markups

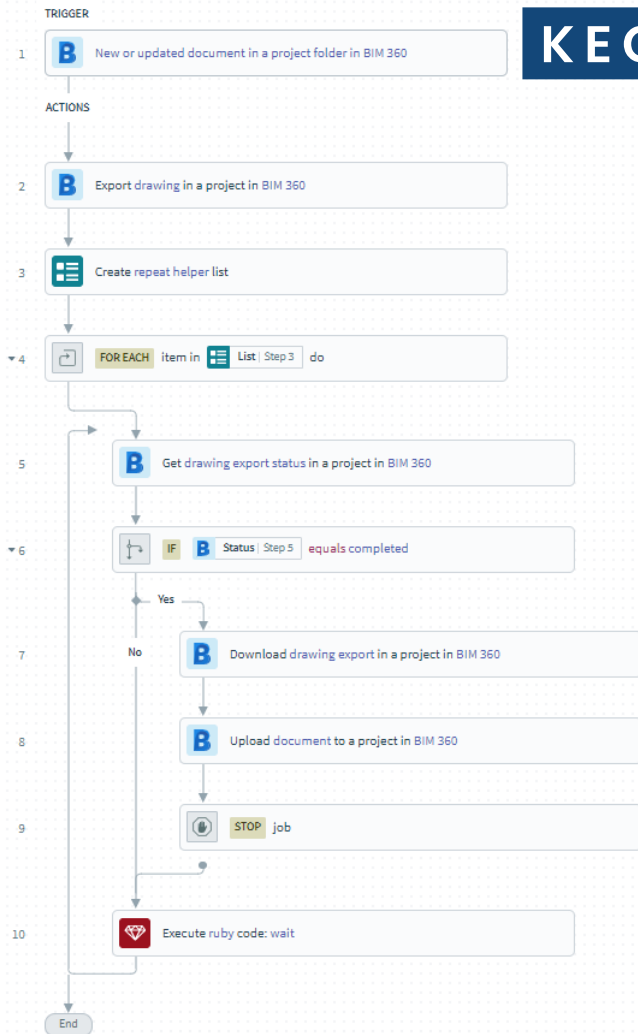
ACC Connect (Workato)

To export a PDF including Markups, we need to select one by one and selecting the export option, becoming a tedious manual task.

Using ACC Connect, KEO has created a recipe to search for all the documents in a specific folder, and then automatically export, download and upload it to other folder that we select.

Doing it manually, it takes as an average of 45 seconds per file. Doing it with ACC it takes an average of 20 seconds per file, but being automatic without any attention required.

KEO developed this solution in 2020 and the team has saved 20 man hours in 2020 and 25 man hours to date in 2021.



Upload Documents to Customer Hub (live sync)



ACC Connect – 360 Sync – BIMrx Cloud Manager

Asset owners, Developers and/or Clients frequently select BIM 360 as their CDE. Therefore, its supply chain must upload their Shared or Published information to their Hub, while having their WIP information in their company's BIM 360.

To avoid manual download and upload of the information from any supply chain's company Hub to the Client's Hub, the below 3 options can automatically sync a specific folder and subfolders, when a new document is being uploaded.

- ACC Connect
- 360 Sync
- BIMrx Cloud Manager

Please note that all the above tools needs to be added in the BIM 360 account admin of the Client's Hub as well.

KEO developed this solution in 2020 using ACC Connect.

Upload Documents to Customer Hub (1 time sync)



ACC Connect – 360 Sync – BIMrx Cloud Manager - Transfer App - 360 Admin Tools

As previous slide, but only as one time sync, the below 6 options can sync a specific folder and subfolders or files, when all documents are ready to be transferred.

- ACC Connect
- 360 Sync
- BIMrx Cloud Manager
- Transfer App
- 360 Admin Tools
- Cloudsfer

Please note that all the above tools needs to be added in the BIM 360 account admin of the Client's Hub as well.

KEO's team has saved 240 man hours since 2019 using Cloudsfer and ACC Connect.

BIM 360 Revit models daily publish

Automating tasks with IMAGINiT Clarity Cloud:

Currently, we can automatically Publish Revit models in BIM 360 Design Collaboration by each Team defined, but with a limitation of this to be completed on Weekly basis.

With IMAGINiT Clarity Cloud, we can now schedule to publish the selected models during select several days of the week as needed.

KEO's team has used this solution since mid 2021 and saved 12 man hours since then.

The screenshot shows the 'BIM360PUBLISH' configuration page in the IMAGINiT Clarity Cloud interface. The page has a dark blue header with navigation tabs: 'PROJECTS', 'TASKS', 'INTEGRATIONS', and 'USERS'. The 'TASKS' tab is selected. The header also displays 'KEO International Consultants' and a user profile 'JT'. Below the header, the page title is 'QDC' and the project number is 'Project #: 20-5583'. The main content area is titled 'BIM360PUBLISH' and includes an 'Update' button. The configuration is divided into two columns. The left column contains fields for 'Name' (publish all models), 'Scope' (File), 'Project' (QDC), 'Target' (/20-5883/01-WIP/DES-04-ARCH/QDC-#), and 'Priority' (5). The right column contains 'Frequency' (Scheduled), 'Schedule' (Weekly, 22), a weekly schedule grid with checkboxes for days of the week (S, M, T, W, T, F, S), 'Only on change' (checked), 'Launchable' (Yes), 'Administrator Required' (Yes), 'E-mail Notifications' (Yes), and 'Enabled' (Yes). At the bottom, there is a 'Wait for Completion' dropdown set to 'Yes'.

KEO

PROJECTS TASKS INTEGRATIONS USERS

KEO International Consultants JT

QDC Project #: 20-5583

BIM360PUBLISH Update

Name: publish all models Frequency: Scheduled

Scope: File Schedule: Weekly 22

Project: QDC

Target: /20-5883/01-WIP/DES-04-ARCH/QDC-#

Priority: 5

☒ ☒ ☒ ☒ ☒ ☐ ☐
S M T W T F S

☒ Only on change

Launchable: Yes

Administrator Required: Yes

E-mail Notifications: Yes

Enabled: Yes

Wait for Completion Yes

BIM 360 Revit or AutoCAD eTransmit

Automating tasks with IMAGINiT Clarity Cloud:

To eTransmit a Revit model:

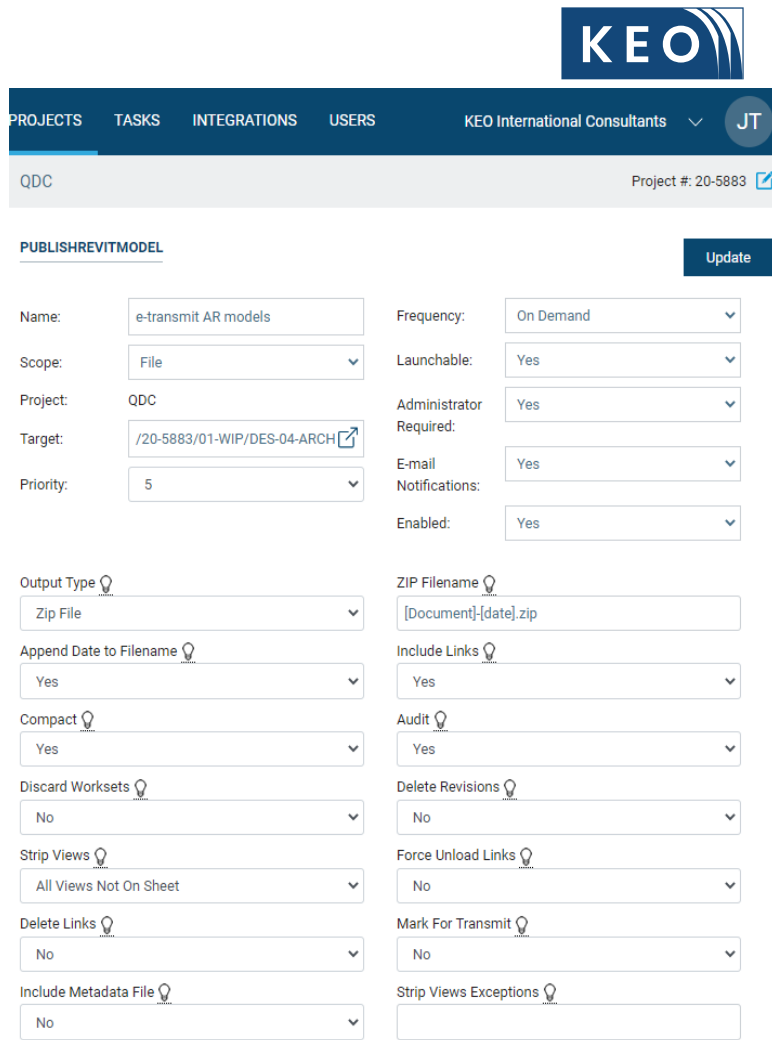
1. Sync the model in the Autodesk Desktop Connector (which could take some time depending on the internet connection)

2. Open the eTransmit from Revit and select one by one model.

To eTransmit AutoCAD files:

1. All external references should be synced
2. Open AutoCAD and select one or more files simultaneously

KEO's team has used this solution since mid 2021 and saved 16 man hours since then.



The screenshot displays the KEO International Consultants web application. The top navigation bar includes links for PROJECTS, TASKS, INTEGRATIONS, and USERS, along with the company name and a user profile icon labeled 'JT'. The main header shows the current project as 'QDC' and the project number '20-5883'. The central section is titled 'PUBLISHREVITMODEL' and contains a form for configuring the eTransmit process. The form is organized into two columns of settings, each with a dropdown menu or text input field. The settings include Name, Scope, Project, Target, Priority, Frequency, Launchable, Administrator Required, E-mail Notifications, Enabled, Output Type, ZIP Filename, Append Date to Filename, Include Links, Compact, Audit, Discard Worksets, Delete Revisions, Strip Views, Force Unload Links, Delete Links, Mark For Transmit, Include Metadata File, and Strip Views Exceptions. An 'Update' button is located in the top right corner of the form area.

Setting	Value
Name	e-transmit AR models
Scope	File
Project	QDC
Target	/20-5883/01-WIP/DES-04-ARCH
Priority	5
Frequency	On Demand
Launchable	Yes
Administrator Required	Yes
E-mail Notifications	Yes
Enabled	Yes
Output Type	Zip File
ZIP Filename	[Document]-[date].zip
Append Date to Filename	Yes
Include Links	Yes
Compact	Yes
Audit	Yes
Discard Worksets	No
Delete Revisions	No
Strip Views	All Views Not On Sheet
Force Unload Links	No
Delete Links	No
Mark For Transmit	No
Include Metadata File	No
Strip Views Exceptions	

BIM 360 Print/Export from Revit/AutoCAD

Automating tasks with IMAGINiT Clarity Cloud:

Exporting to different formats for sharing with other teams or submitting to a Client is a very frequent task, which requires an unattended meaningless effort from the users.

We can export to the below formats:

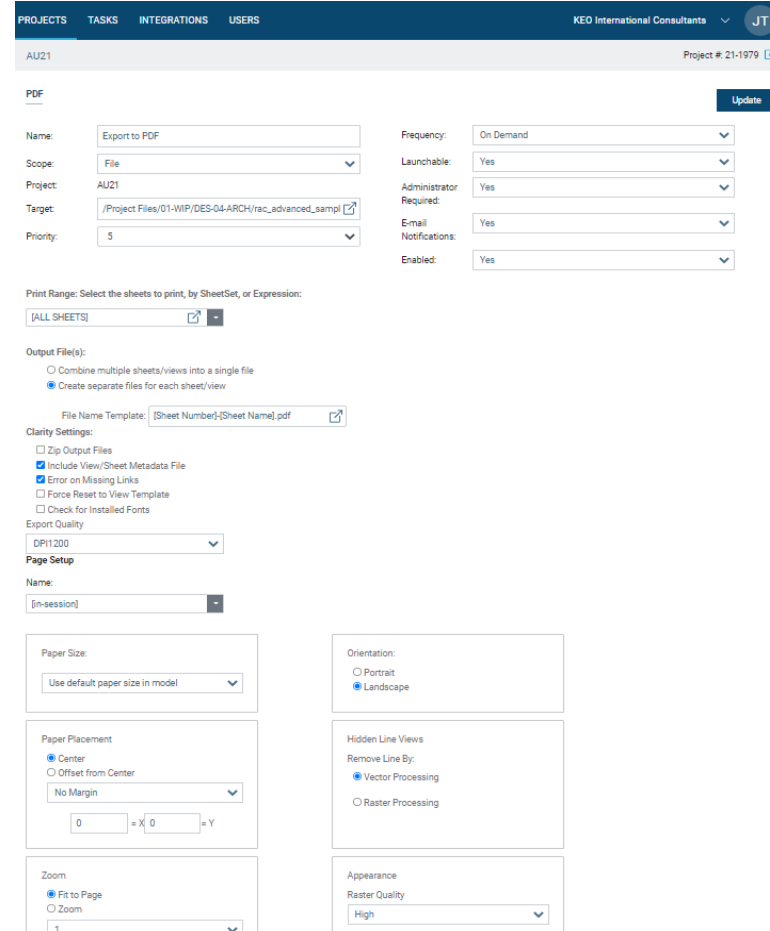
AutoCAD to PDF

Revit to DGN/DWF/DWG/FBX/GBXML/IFC/(PDF*)

Revit Schedule(s) Export

* Only in 2022 Version

KEO's team has used this solution since mid 2021 and saved 24 man hours since then.



The screenshot displays the 'PROJECTS' tab in the IMAGINiT Clarity Cloud interface. The project 'AU21' is selected, with a project number of 21-1979. The 'PDF' export configuration is shown, including fields for Name, Scope, Project, Target, and Priority. The 'Print Range' is set to 'ALL SHEETS'. The 'Output File(s)' section allows for combining or creating separate files. The 'Clarity Settings' section includes checkboxes for Zip Output Files, Include View/Sheet Metadata File, Error on Missing Links, Force Reset to View Template, and Check for Installed Fonts. The 'Export Quality' is set to 'DPI1200'. The 'Page Setup' section includes fields for Name, Paper Size, Paper Placement, and Zoom. The 'Orientation' is set to 'Landscape'. The 'Hidden Line Views' section includes a 'Remove Line By' dropdown set to 'Vector Processing'. The 'Appearance' section includes a 'Raster Quality' dropdown set to 'High'.

BIM 360 Users management and bulk assign



360 Admin Tools – BIMrx Cloud Manager

360 Admin Tools

Name	Email	Company	Role
<input type="checkbox"/> Aadil Siraj	aadil.siraj@keoic.com	KEO	KEO Architecture
<input type="checkbox"/> Aarathi Muralidharan	aarathi.muralidharan@keoic.com	INSITE	Insite
<input type="checkbox"/> Abdelhafiz Taha	abdelhafiz.taha@keoic.com	KEO	KEO Architecture
<input type="checkbox"/> Abdelkader Syed	abdelkader.syed@keoic.com	KEO STRUCTURE	KEO Structure
<input type="checkbox"/> Abdelmuiz Shawar	abdelmuiz.shawar@keoic.com	KEO SUSTAINABILITY	KEO Environment And Sustainability
<input type="checkbox"/> Abdelraouf Abdelshafy	abdelraouf.abdelshafy@keoic.com	KEO PLUMBING-FIRE PROTECTION	KEO Plumbing & Fire Protection
<input type="checkbox"/> Abdul Basheer Moidutty	abdulbasheer.moidutty@keoic.com	KEO INFRASTRUCTURE	KEO Infrastructure
<input type="checkbox"/> Abdul Kunhimon	abdulk@keoic.com	KEO PLUMBING-FIRE PROTECTION	KEO Plumbing & Fire Protection

BIMrx Cloud Manager

Name	Email	Company	Role
<input type="checkbox"/> Aadil Siraj	aadil.siraj@keoic.com	KEO	KEO Architecture
<input type="checkbox"/> Aarathi Muralidharan	aarathi.muralidharan@keoic.com	INSITE	Insite
<input type="checkbox"/> Abdelhafiz Taha	abdelhafiz.taha@keoic.com	KEO	KEO Architecture
<input type="checkbox"/> Abdelkader Syed	abdelkader.syed@keoic.com	KEO STRUCTURE	KEO Structure
<input type="checkbox"/> Abdelmuiz Shawar	abdelmuiz.shawar@keoic.com	KEO SUSTAINABILITY	KEO Environment And Sustainability
<input type="checkbox"/> Abdelraouf Abdelshafy	abdelraouf.abdelshafy@keoic.com	KEO PLUMBING-FIRE PROTECTION	KEO Plumbing & Fire Protection
<input type="checkbox"/> Abdul Basheer Moidutty	abdulbasheer.moidutty@keoic.com	KEO INFRASTRUCTURE	KEO Infrastructure
<input type="checkbox"/> Abdul Kunhimon	abdulk@keoic.com	KEO PLUMBING-FIRE PROTECTION	KEO Plumbing & Fire Protection

**Integrate other tools
and platforms with BIM
360 to improve
collaboration,
communication and
coordination**

BIM 360 link to Microsoft One Drive (live sync)

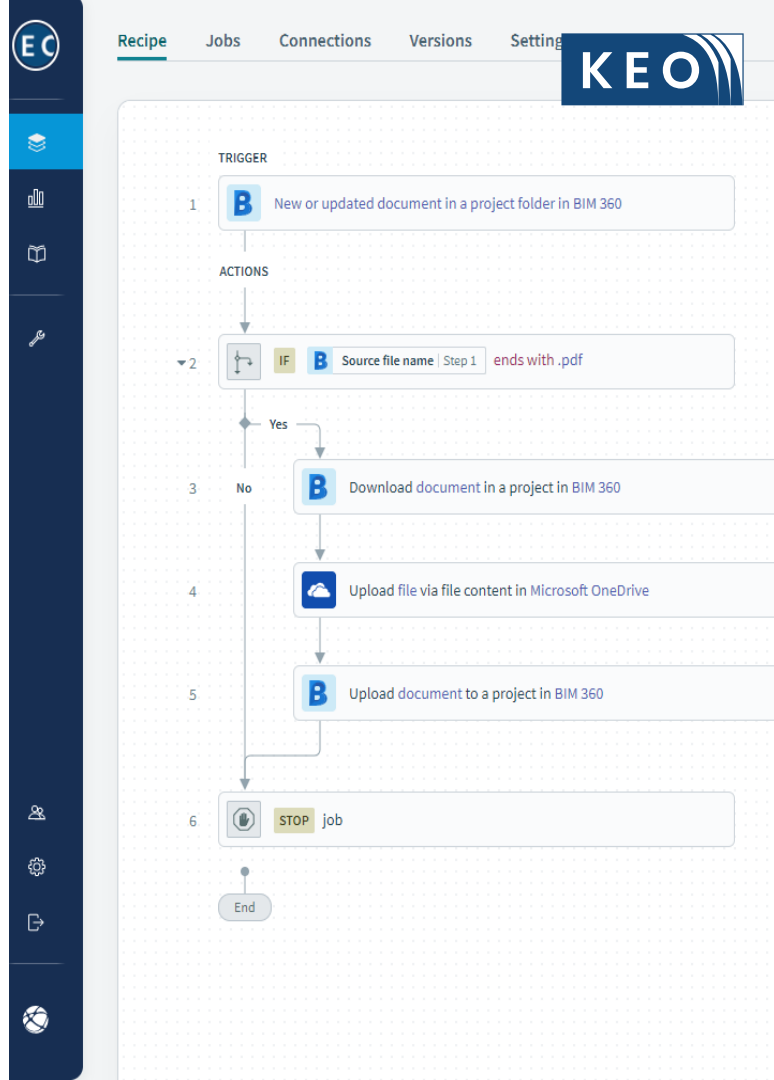
Setting up the recipe to live sync files on BIM 360 to Microsoft One Drive:

- Add the connection to BIM 360
- Add the connection to Microsoft One Drive

Then we can create our recipe to sync our selected BIM 360 project with the selected folder in Microsoft One Drive.

We can also add conditional formats to sync only specific file formats or any other formulas.

KEO developed this solution in 2020 using ACC Connect.



Microsoft OneDrive link to BIM 360 (live sync)



360 Admin Tools – Cloudsfer

360 Admin Tools

New project. This module allows you to create new projects.

Autodesk BIM 360

Account: KEO

Project (*): Autodesk University 2021.x

Connector

Select a connector folder (*)

- Dropbox
- OneDrive
- Google Drive
- Box
- SharePoint
- OneDrive (Personal)
- OneDrive (Business)
- OneDrive (Education)
- OneDrive (Government)
- OneDrive (Healthcare)
- OneDrive (Retail)
- OneDrive (Travel)
- OneDrive (Utilities)
- OneDrive (Vendors)
- OneDrive (Wholesale)

Configuration

Description: OneDrive to BIM 360

Primary CDE: Autodesk BIM 360

Date: 30/8/2021 16:42

Frequency: Every day

Notification: Just with errors or conflicts

Sync folders: Sync all

Sync extensions: Sync all

Options

- ☒ Synchronize new elements in BIM
- ☒ Synchronize updated elements in BIM
- ☒ Synchronize deleted elements in BIM
- ☒ Synchronize new elements in connector
- ☒ Synchronize updated elements in connector
- ☒ Synchronize deleted elements in connector

Cloudsfer

Hey, It's Good To See You Today!

Let's start a new project together within seconds

Step 1: Select source system

Source: OneDrive (Personal) Connect

Name: Juan Tena

Search

Selected path: OneDrive\Documentos

Settings

- ☒ Include parent folder
- ☐ Include content shared with user

Step 2: Select target system

Target: BIM 360 (Admin) Connect

Name: Juan Tena Florez

Email: Juan.TenaFlorez@keoic.com

Search

Selected path: BIM 360\KEO (Docs)\Autodesk University 2...

Step 3: Finalize

Create Plan

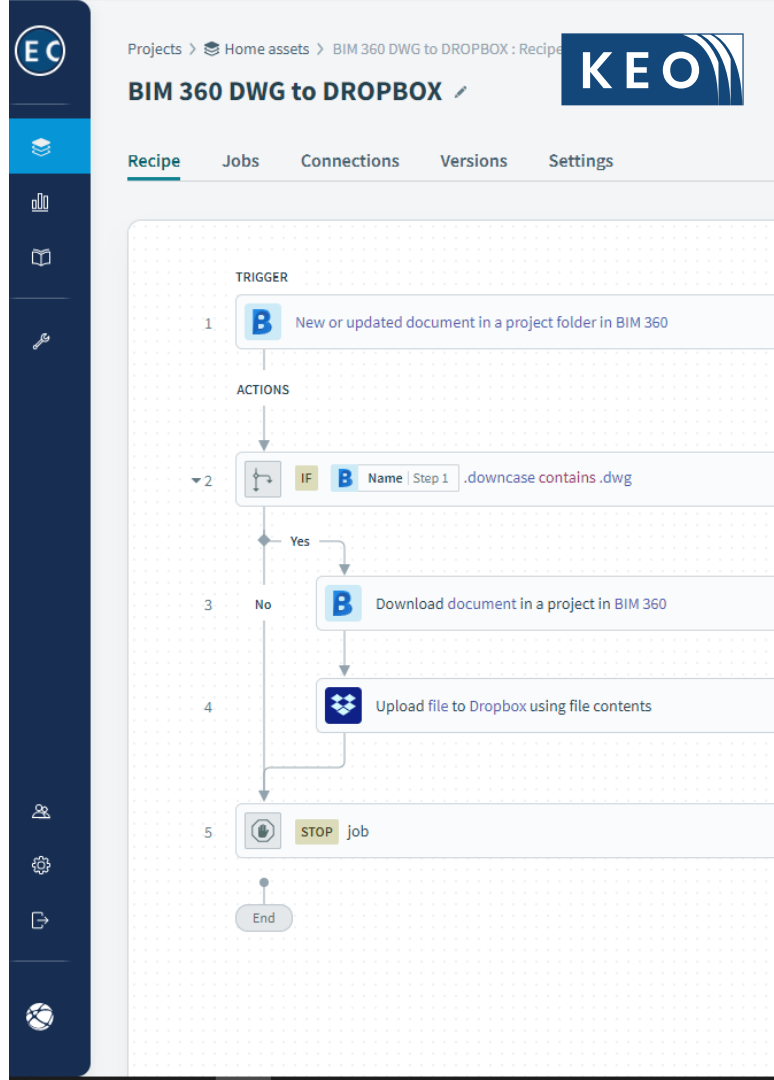
BIM 360 DWG to DROPBOX (live sync)

Setting up the recipe to sync files between different platforms:

- Add the connection to BIM 360
- Add the connection to Dropbox

Then we can create our recipe to sync the files from our selected BIM 360 project to the selected folder in Dropbox and adding a conditional formula to select only dwg files.

KEO developed this solution in 2020 using ACC Connect.



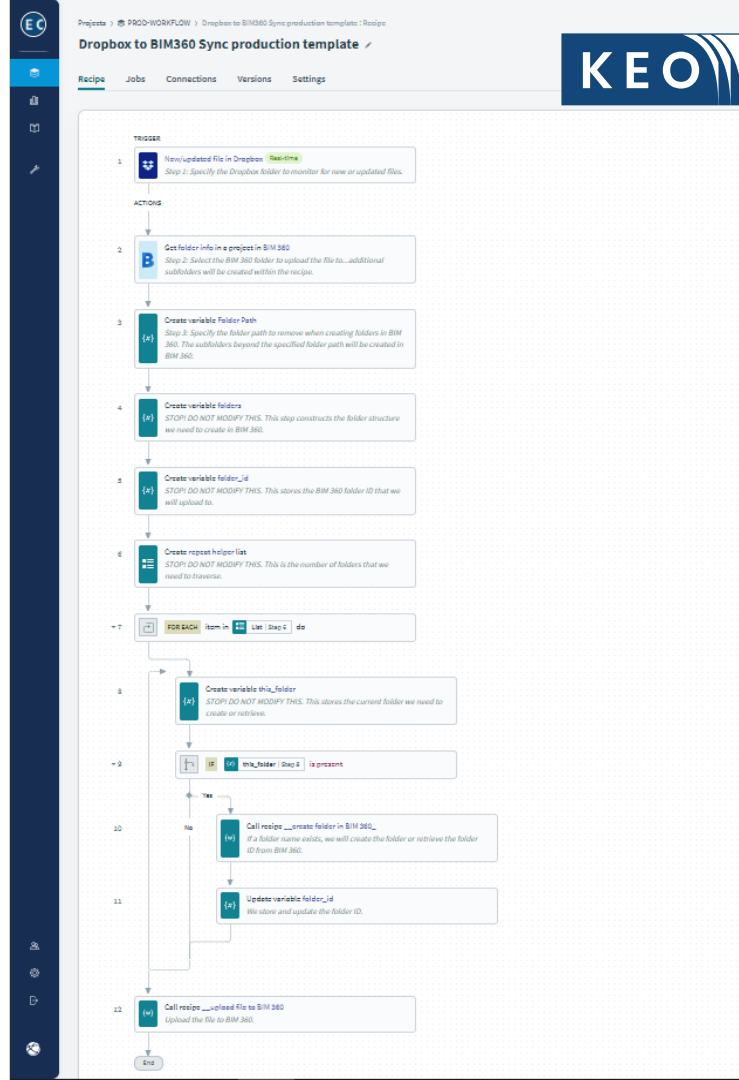
DROPBOX to BIM 360 (live sync)

Setting up the recipe to sync files between different platforms:

- Add the connection to BIM 360
- Add the connection to Dropbox

Then we can create our recipe to sync the files from the selected folder in Dropbox to our selected BIM 360 project.

KEO developed this solution in 2020 using ACC Connect.



BIM 360 to Outlook or Slack

Setting up the recipe to send messages or emails when an issue is created or updated or when a new file is created or updated:

- Add the connection to BIM 360
- Add the connection to Slack and/or Outlook

Then can create our recipe to send custom messages to a specific Slack channel with the information selected or to send an email to an address specified.

The screenshot displays the KEO platform interface. At the top, the breadcrumb navigation shows 'Projects > TEST > BIM 360 Issues to Slack : Recipe'. The main title is 'BIM 360 Issues to Slack' with an edit icon. The navigation bar includes 'Recipe' (selected), 'Jobs', 'Connections', 'Versions', and 'Settings'. The left sidebar contains icons for a dashboard, a book, a key, and a globe. The main content area shows a workflow diagram with four steps: 1. 'New or updated issue in a project in BIM 360' (Trigger), 2. 'Get project details in BIM 360' (Action), 3. 'Post message in Slack' (Action), and 4. 'Send email from Outlook Mail' (Action). The workflow ends with an 'End' node.

```
graph TD; Trigger[1. New or updated issue in a project in BIM 360] --> Action1[2. Get project details in BIM 360]; Action1 --> Action2[3. Post message in Slack]; Action2 --> Action3[4. Send email from Outlook Mail]; Action3 --> End([End]);
```

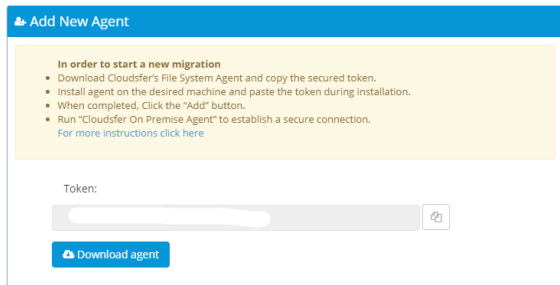
**Apply better techniques
to improve the
migration of On-
Premises files to BIM
360**

On-Premise migration to BIM 360

Connect File System Agent

Steps to start the migration process:

- Add and Connect to a new Agent
- Install Cloudsfer On-Premise agent
- Copy and paste Token. Run it.

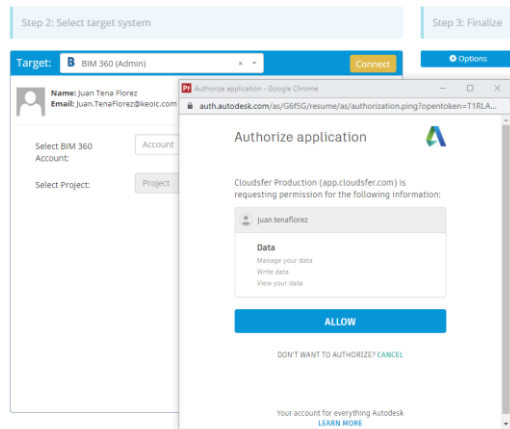


Cancel Add

Connect to BIM 360 Admin

Steps to enable the migration to BIM 360:

- Connect to BIM 360 Admin
- Allow authorization



360Sync™

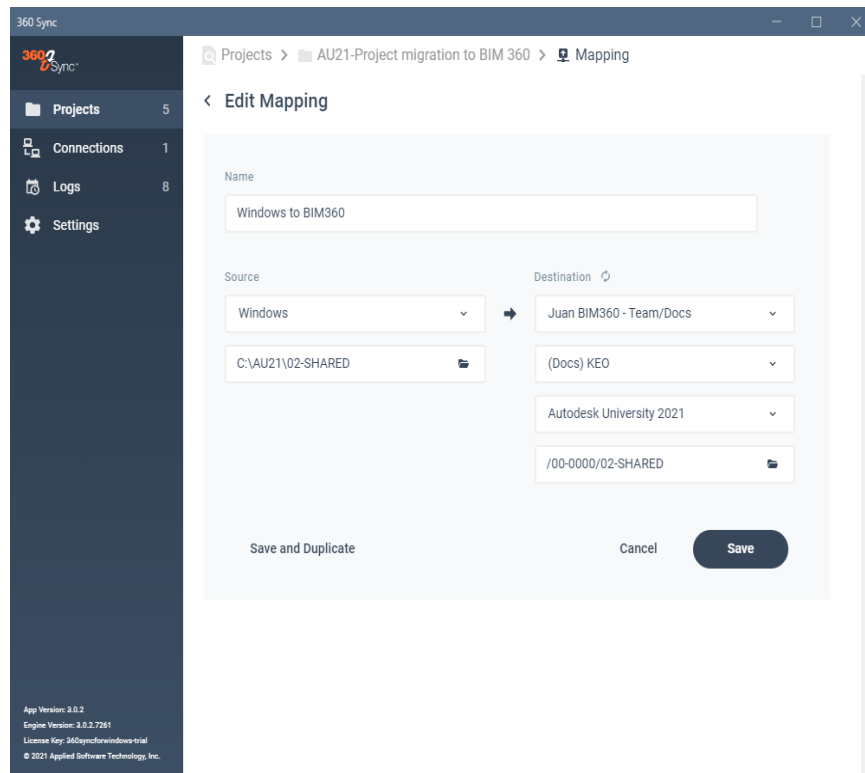


On-Premise migration to BIM 360

360 Sync tool is very simple to use.
Steps to create a project migration with on-premises files:

- Add a BIM 360 Connection
- Add a project
- Add a mapping
- Run or schedule it

As the tool is a desktop app, it is also possible to use the Microsoft Windows Task Manager to schedule certain tasks to run automatically.



BIMrx Cloud Manager

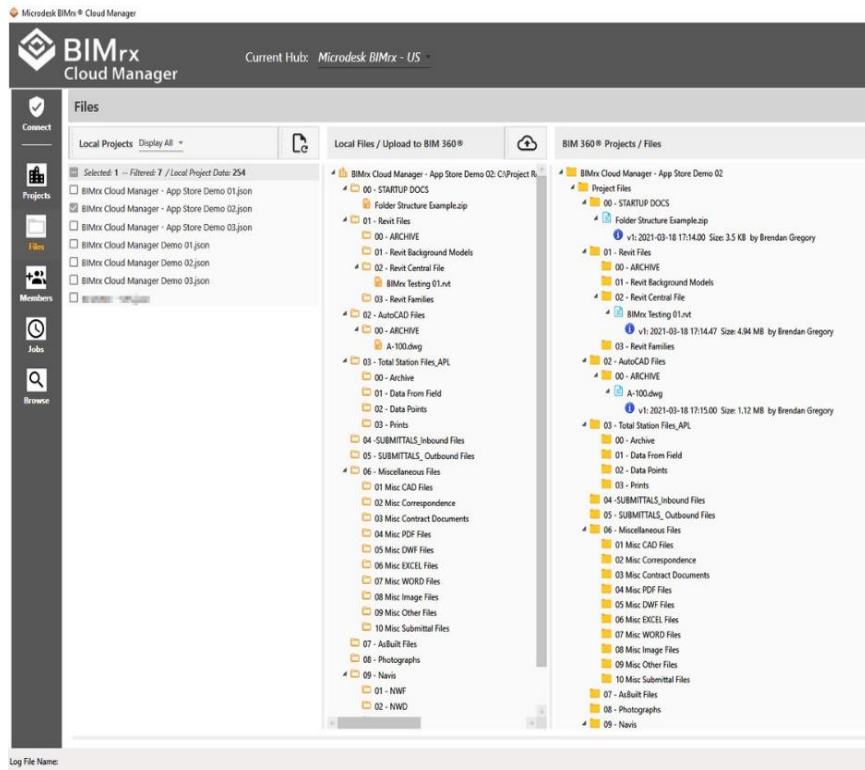


On-Premise migration to BIM 360

Step 1: Connect to BIM 360 account and Hubs we would like to add and local drive

Step 2: Create local projects, which we will use to migrate or to sync

Step 3: Select the BIM 360 project that will be transferred. A log file is created to report any actions performed



ACC Connect

On-Premise migration to BIM 360



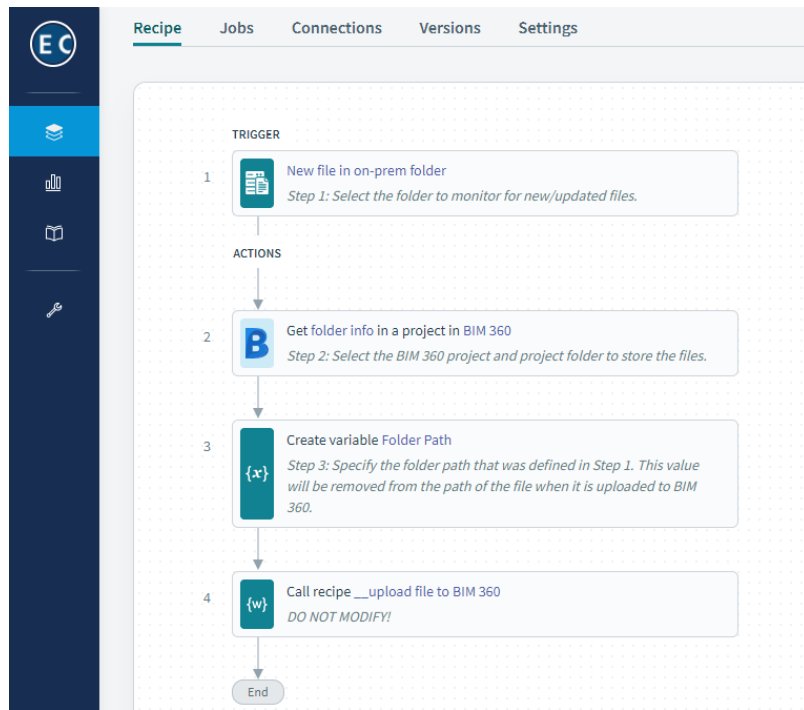
Creating + connecting On-Prem Agent

Setting up the recipe to sync files between platforms:

- Create an on-prem group
- Add an agent
- Run the agent

Now we create our recipe to sync the local files to our selected BIM 360 project.

Creating a recipe



Conclusion

Automation + Integration = Better ROI

KEO International Consultants has achieved with automation:

- 10+ tasks/routines since 2019
- 200+ man hours saved since 2019
- Increased consistency
- Improved quality
- Enhanced information management
- Improved collaboration

KEO International Consultants has integrated:

- 4 different platforms
- 400+ man hours saved since 2019
- 100+ projects migrated on-premise
- 1,000+GB migrated on-premise
- 100+GB transferred to other platforms
- Better communication

The background of the slide features four abstract, dark gray, three-dimensional geometric shapes positioned in the corners. These shapes resemble stylized, faceted blocks or architectural elements, each with sharp edges and reflective surfaces that catch the light, creating a modern and sophisticated aesthetic. The central text is prominently displayed in a clean, white, sans-serif font.

AUTODESK UNIVERSITY

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