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Seamless Revit Collaboration (and More!) with BIM 360 Design

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Learning Objectives

- Discover the technical and process-related advantages of cloud-based collaboration workflows.
- Learn how to create, organize, and manage projects using BIM 360 Design.
- Learn how to capitalize on best practices for cloud-based collaboration with internal and external stakeholders.
- Assess the ROI and benefits of BIM 360 Design to project teams, owners, and design firms.

Description

Have you made the move to cloud-based Revit collaboration with BIM 360 Design software? Not yet? This class is for you! We'll take a look at the needs served by this cloud-hosted software, discuss the value that it brings to the table, and then dive into a live project. We'll start in Revit software, send our design data to BIM 360 software, and then move over to BIM 360 to receive that data. We'll explore the Design Collaboration module, where design teams can create, share, manage, and consume work packages with each other. Finally, we'll visit the Document Management module, where all project stakeholders have roles to play in model viewing, sharing, markups, issue creation and tracking, and more. In this fast-paced course, you should have the knowledge needed to make the decision to adopt BIM 360 Design and extend BIM (Building Information Modeling) workflows within your own firm.

Speakers

A registered architect, civil/structural engineer-in-training, sustainability professional, and AEC technology evangelist, **Aaron Vorwerk** leads the global Building Technical Marketing team for Autodesk.

A 9-year veteran of Autodesk, **Chris Aquino** is the Adoption Marketing Manager for BIM 360 Design, bringing his experience in architectural practice to bear in his current focus on learning and adoption content and messaging.

Industry Context

Today's climate offers many challenges for your business—but it also presents unexpected opportunities for growth, learning, and reinvention. One of your biggest challenges right now might be figuring out how to stay competitive while navigating uncertainty. As business needs rapidly change, you might be wondering how you and your team might…

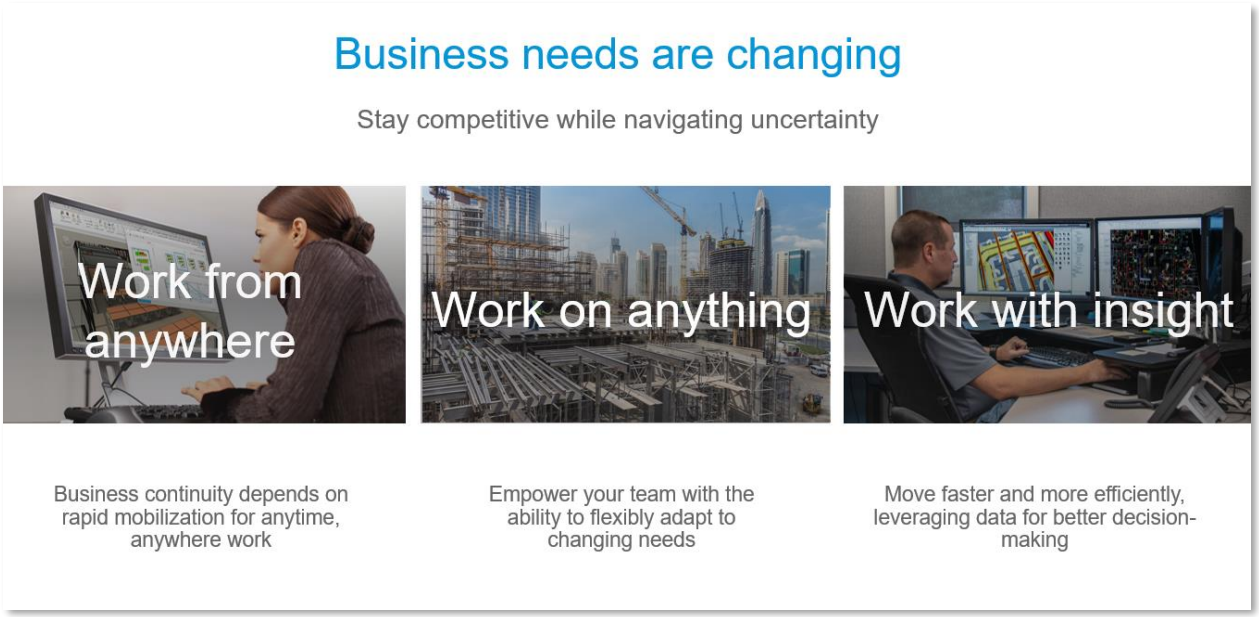

Figure 1: Changing Business Needs

Work from anywhere. Maintaining business continuity now requires the ability to readily mobilize your teams for "anytime, anywhere work"—whether at home, from a remote office, or when collaborating with an external partner. Cloud adoption has proven essential in helping AEC companies of all sizes to achieve business continuity and resilience during these times.

Work on anything. To better manage unpredictability and disruptions, you want to be able to empower your team to flexibly adapt as requirements change. This means fewer siloes and more integrations, less restrictions and more flexibility, reduced wastage, and more scalability. You don't want another disconnected app; you want your technology investment to span multiple use cases, file types, and workflows.

Work with insight. Move faster with more efficiency, leveraging data for better decision-making. If data is the new oil, don't just "store" your data—make sure it's working to help you:

- Extract actionable insights;
- Communicate design intent and retain BIM fidelity during construction handover; and
- Manage projects efficiently, keeping teams on the right page at the right time.

Unexpected opportunities for growth, learning, and innovation all start with “connection”. Collaboration in the industry is being drastically reshaped in these times. Companies are investing in digitization more than ever but want solutions that connect more than just teams, offer flexibility, and provide powerful insights. Collaboration solutions now need to be:

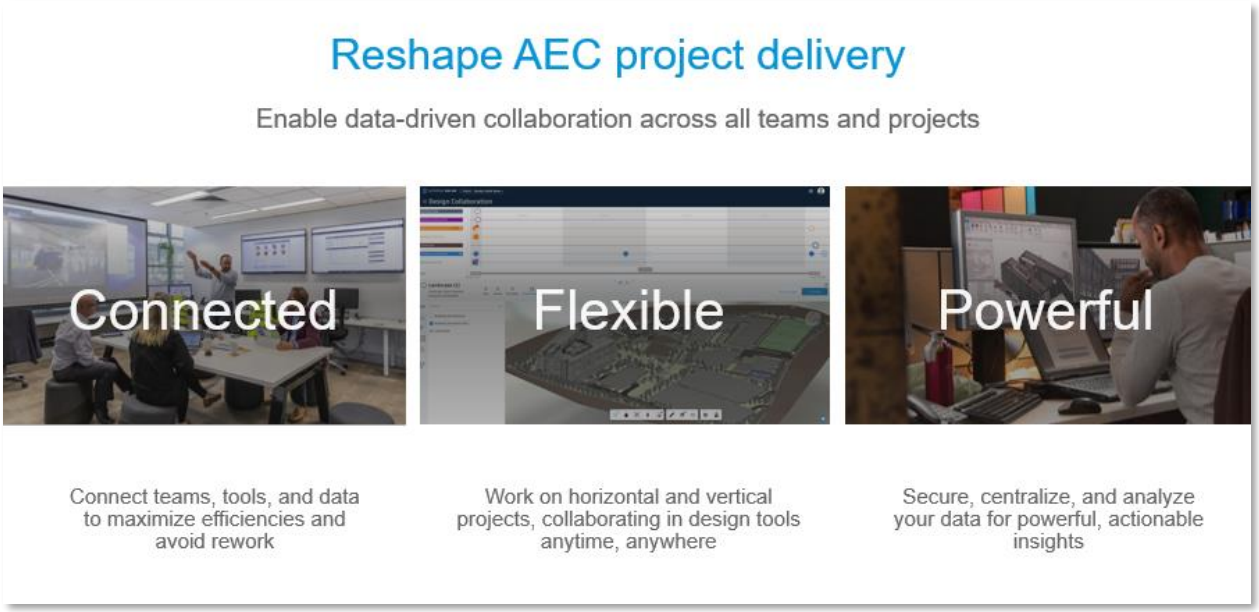

Figure 2: Collaboration Needs

Connected. You want to connect your teams, tools, and data all in one place to improve productivity and avoid rework. You want to be able to collaborate in your preferred design tools, communicate progress in real time, and manage all documentation on a single platform that’s built to understand the AEC industry.

Flexible: You want a solution that is purpose-built to support all AEC workflows—both horizontal and vertical disciplines, and from design to construction. And you need anytime, anywhere access to your data to get the job done.

Powerful: You need a platform that you can trust, where your data is centralized and protected. You want that platform to be scalable to suit any size of project, and you would like it to provide you with actionable insights on your projects that can reduce risk and improve profitability.

What is BIM 360 Design?

Autodesk BIM 360 Design is a cloud worksharing, design collaboration, and data management product for improved project delivery, built on the new BIM 360 platform.

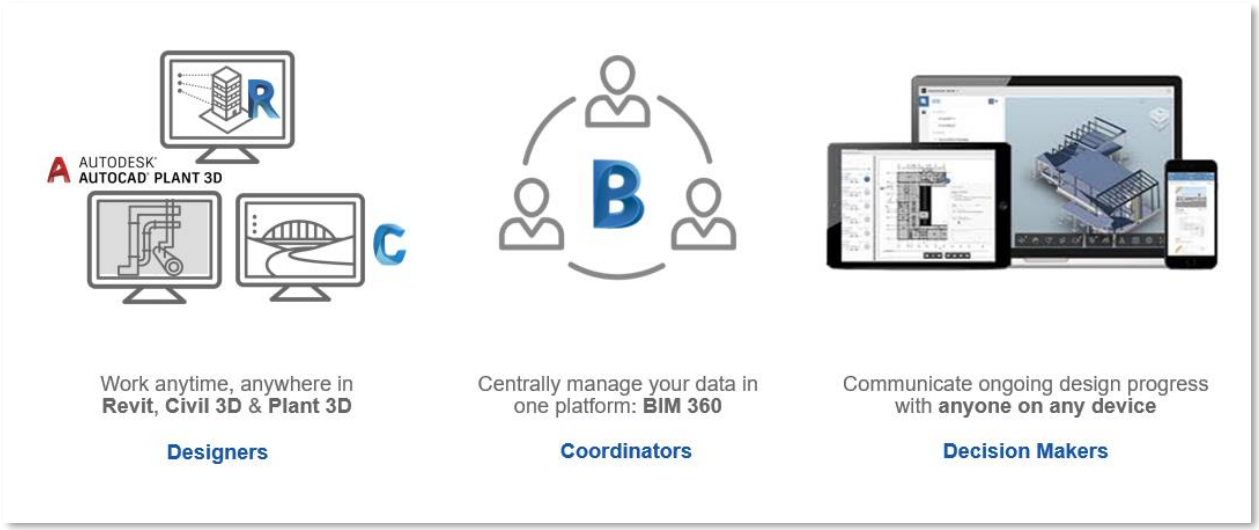

Figure 3: BIM 360 Design Benefits at a Glance

Before we get into the specifics of BIM 360 Design, let's take a look at the platform that forms its foundation.

BIM 360: A Connected Platform

Autodesk has brought together numerous key capabilities into a single brand, Autodesk BIM 360, to support the entire AEC project lifecycle (design, build, and operate):

- Controlled (Revit) worksharing
- Cloud-based Civil 3D and Plant 3D collaboration
- Deliverable coordination
- Design review
- BIM coordination
- Change visualization
- Quality management
- Construction safety
- Issue management
- RFIs and submittals
- And more!

BIM 360 is our AEC cloud brand and project delivery platform. This next-generation platform removes the need for single point applications and unifies your project data. The unified BIM 360 solution aggregates the data and provides transparency to project stakeholders making everyone more accountable and improving visibility in real time.

Figure 4: The BIM 360 platform

The BIM 360 portfolio comprises several product offerings, each of which provides access to certain features of this single, connected platform. The focus of this class is, of course, BIM 360 Design.

BIM 360 Design for Buildings

BIM 360 Design enables building design professionals and extended project team stakeholders, whether within one firm or across multiple firms, to collaborate securely and store data on the BIM 360 platform for AEC projects.

BIM 360 Design includes 3 key features for Revit users:

- The **Document Management** module on the BIM 360 platform;
- Powerful **Revit Cloud Worksharing** technology that enables real-time Revit worksharing virtually anywhere, even with modest internet connectivity; and
- The **Design Collaboration** module, giving customers a high degree of control over how (and with whom) their project data is shared, as well as the unique ability to see all changes from version to version.

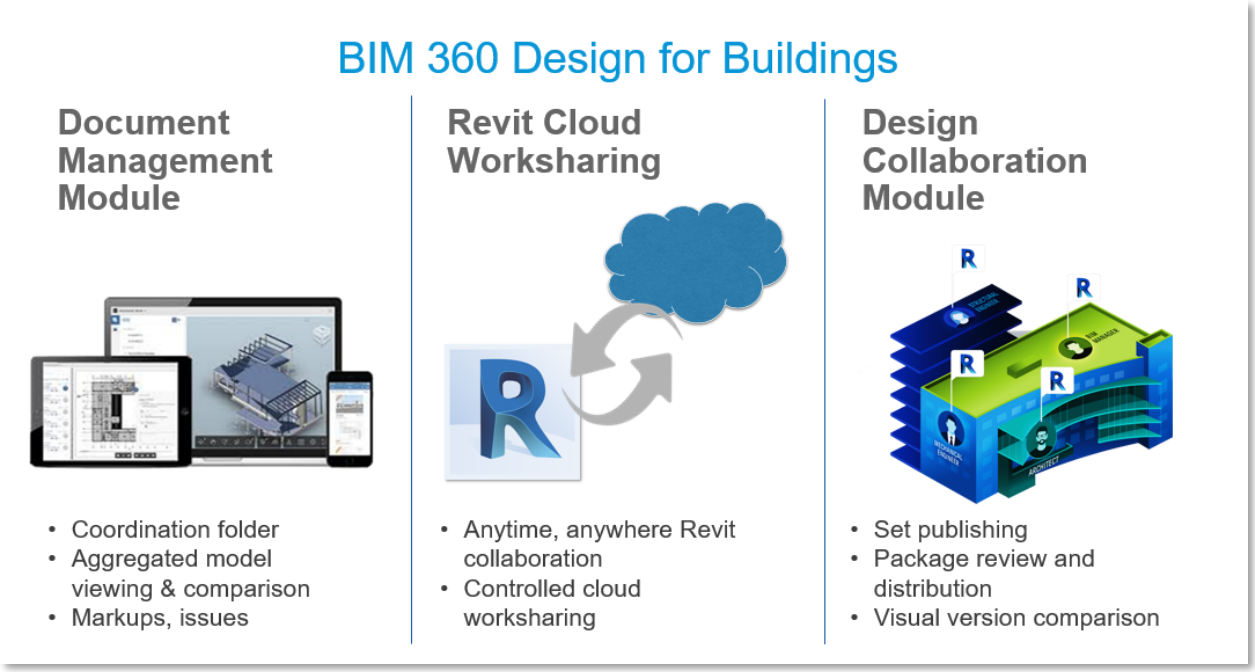

Figure 5: BIM 360 Design for Buildings

BIM 360 Design for Infrastructure

BIM 360 Design for Civil 3D allows civil infrastructure professionals and extended project team stakeholders, whether within one firm or across multiple firms, to collaborate securely and store data on the BIM 360 platform for AEC projects.

BIM 360 Design for Civil 3D includes 3 key items:

- **Collaboration for Civil 3D**;
- The **Document Management** module on the BIM 360 platform; and
- The **Desktop Connector**.

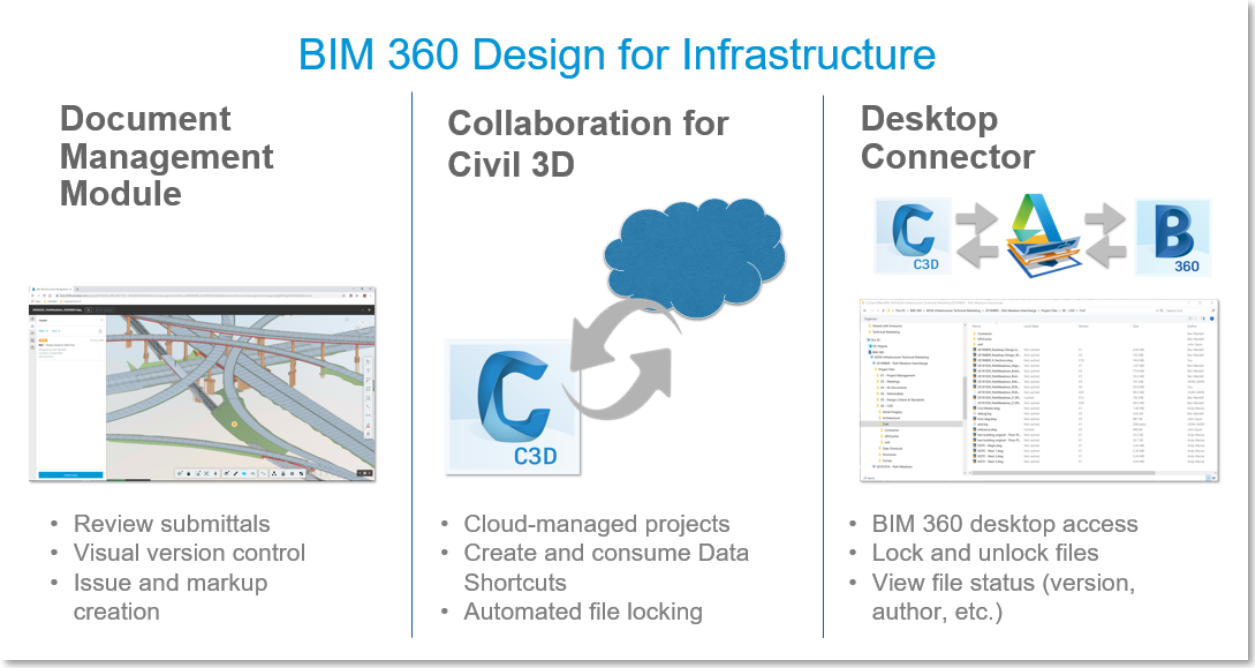

Figure 6: BIM 360 Design for Infrastructure

BIM 360 Design for Plant

In much the same way as infrastructure, BIM 360 Design for Plant 3D allows plant and industrial professionals and stakeholders to collaborate easily and securely on the BIM 360 platform.

BIM 360 Design for Plant 3D includes 2 key items:

- **Collaboration for Plant 3D**; and
- The **Document Management** module on the BIM 360 platform.

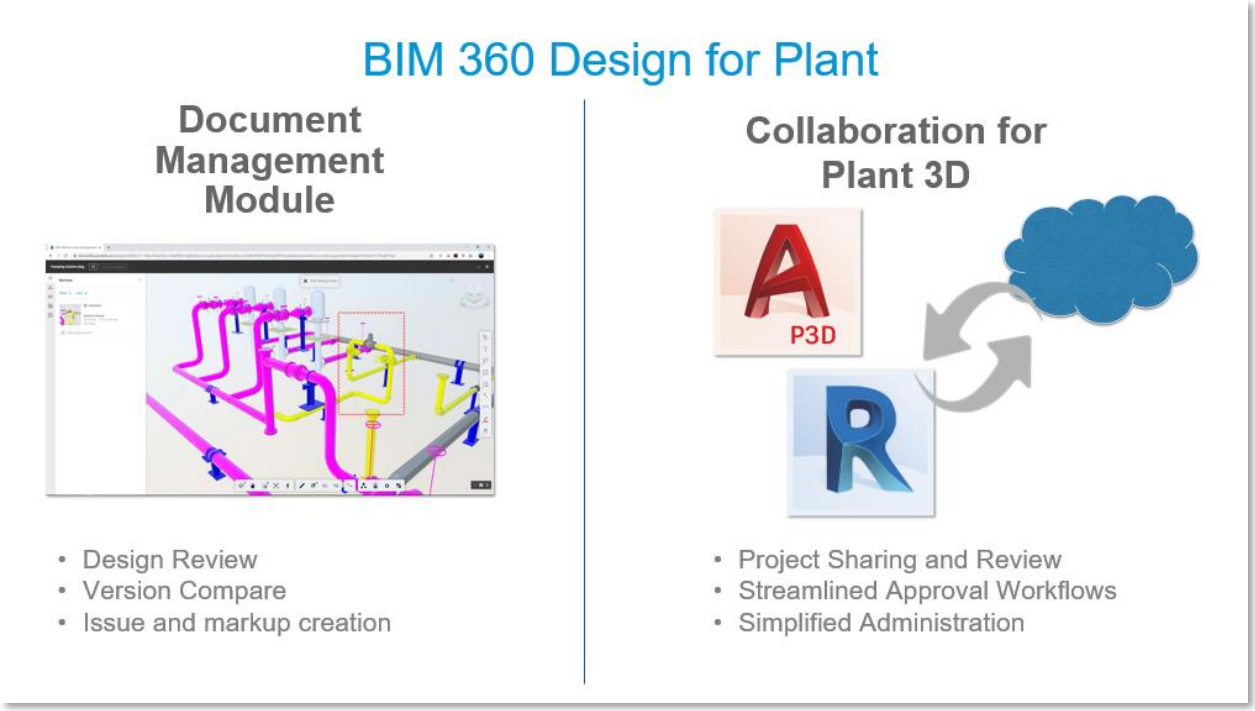

Figure 7: BIM 360 Design for Plant

With BIM 360 Design, you can co-author multidisciplinary Revit models, collaborate on Civil 3D and Plant 3D projects, and access data management and collaboration functionality, e.g. 2D and 3D file viewing with markup and issue creation tools, accessible from your web browser or mobile app. **This goes far beyond simply enabling cloud-based Revit worksharing or "checking out" an AutoCAD file.** Additional features include:

- **Single Project Repository** *(Document Management)*
  - Unlimited storage
  - Support for all file types
  - Project activity log
- **Access Controls** *(Document Management)*
  - Project- and folder-level access rights
  - Define access by role, company, or user
  - Configure up to six permission levels
- **Navigation** *(Document Management)*
  - List and thumbnail views
  - Version control and rollback
  - Single viewer for 2D and 3D files
- **Document Modification** *(Document Management)*
  - Create, view, assign and track project issues *(also in Design Collaboration)*
  - Add markups with thumbnail views, notifications, and open/close workflows
  - Assign custom attributes and properties

- **Publishing** *(Document Management)*
  - Extract document sets from design files
  - OCR title block data for automated naming
  - Separate multi-page PDF files automatically
- **Change Visualization** *(Design Collaboration)*
  - View added, removed, or modified elements
  - Understand changes in context between aggregated models in a single space
  - Navigate change visualization by team, phase, building level and more
- **Deliverable Coordination** *(Design Collaboration)*
  - Reduce rework with trackable project activity
  - Facilitate model exchange and deliverable coordination
  - Curate sets to separate in-progress files from shareable files
- **Viewing** *(Document Management)*
  - Online and offline access on web, phone, and tablet
  - PDF and model viewers optimized for Apple iOS
  - Navigate between documents without closing viewer

Key Capabilities of BIM 360 Design

The same key issues resonate with most designers when surveyed on their opinions about the challenges to effective project collaboration: **Collaboration**, **Communication**, and **Security**. Let's take a closer look.

Figure 8: Key Capabilities of BIM 360 Design

Collaboration: Anywhere, Anytime, Anyone

BIM 360 Design helps you **simplify access to project collaboration**, i.e. enabling you to:

- Extend Revit worksharing (and Civil 3D / Plant 3D collaboration) to virtually any location;
- Enable secure, concurrent authoring by internal and external project teams; and
- Easily allocate resources, assigning team members as appropriate (e.g. those with relevant skill sets) to each project.

Best of all, this requires no costly IT setup or maintenance!

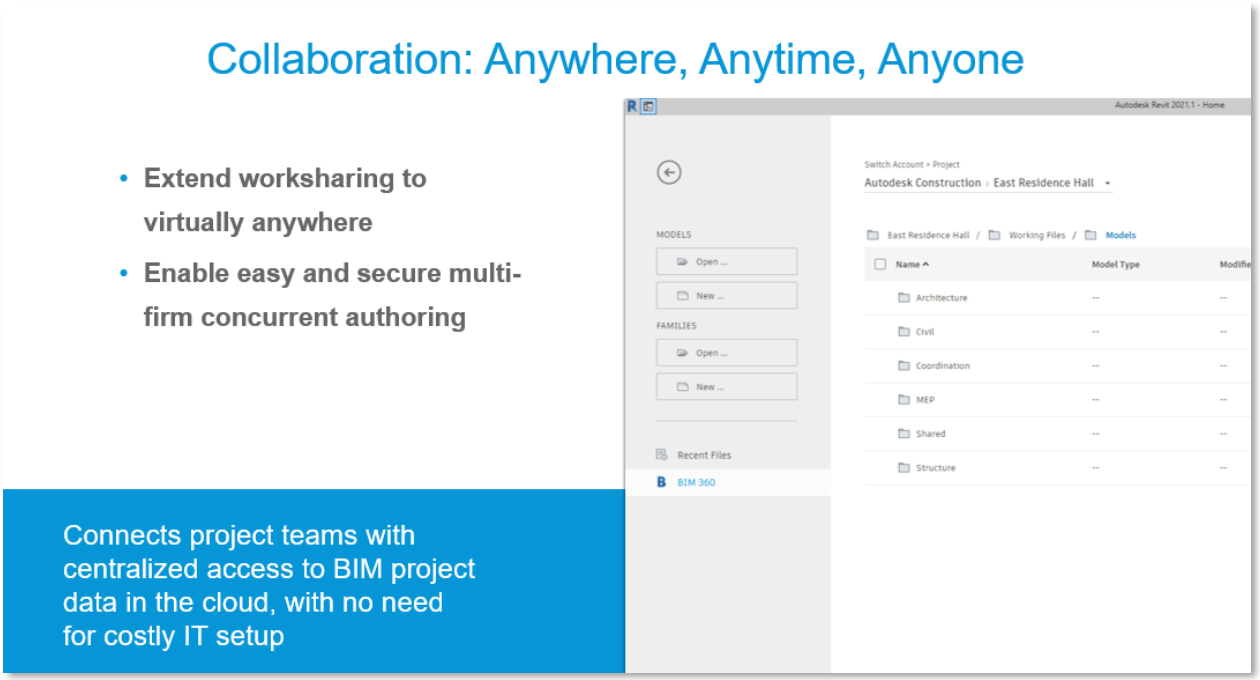

Figure 9: Collaboration with BIM 360 Design

Communication: Managed Collaboration

BIM 360 Design promotes **efficient team communication**, giving you the ability to:

- Reduce rework with trackable project activity;
- Facilitate model exchange and deliverable coordination;
- Understand changes in context between aggregated models in a single space; and
- Navigate change visualization by team, phase, building level and more.

It is powerful indeed to share and consume native design data in a meaningful way, reducing or even eliminating the need to upload, download, import, or export your work. The “managed” collaboration features of BIM 360 Design directly address the most-requested feature of its predecessor, Collaboration for Revit.

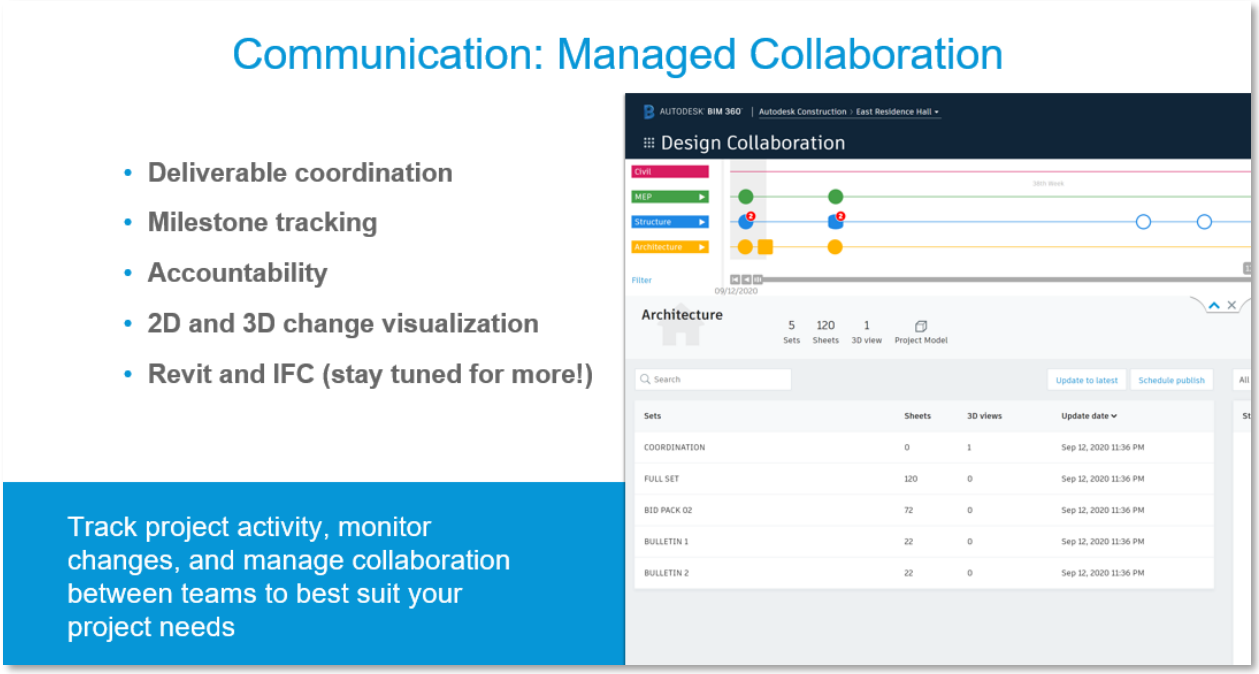

Figure 10: Managing Collaboration with BIM 360 Design

Communication: Issues, Markups, and More

BIM 360 Design helps you **maintain accountability** and ensure project participants stay on track with features to:

- Create private and public (published) markups on 2D or 3D documents for review, including dimensions and text;
- Create issues in context by pinning them to any 2D or 3D design location;
- Add photos, assign work with automated notifications, and track resolution to closure.

It is both useful and logical to add and manage markups and issues directly on the native files that have been published to BIM 360, rather than exporting to formats that are unable to display BIM information.

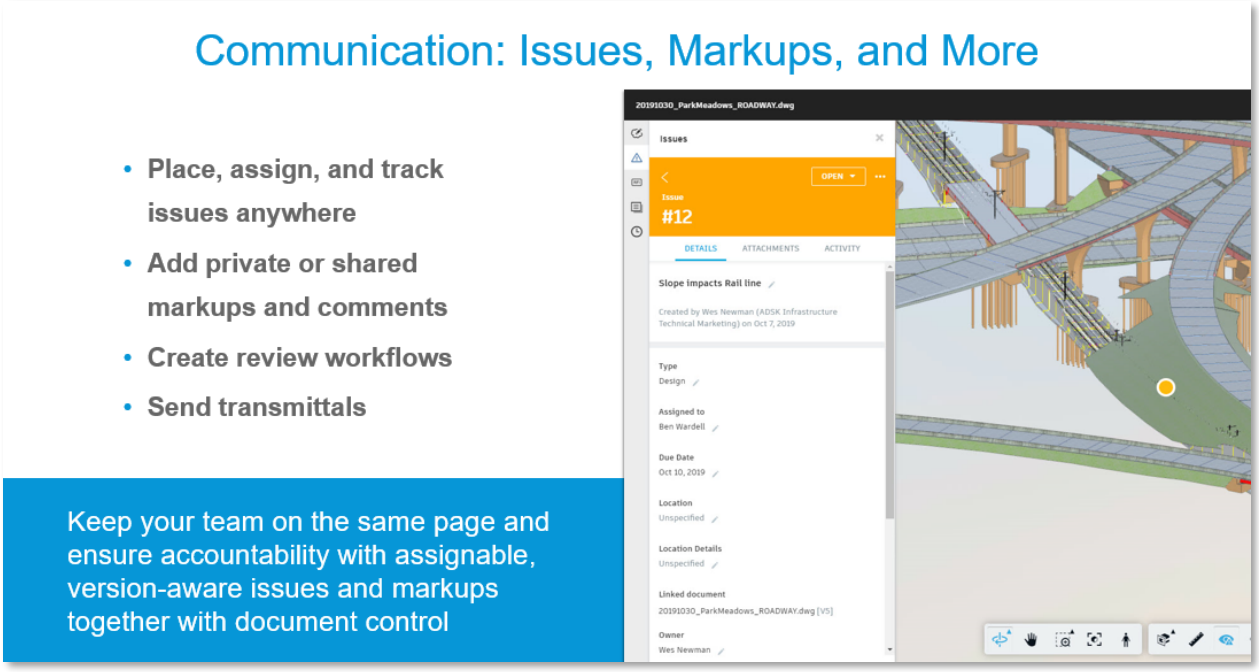

Figure 11: Issues, Markups, and More with BIM 360 Design

Security: Robust Access Controls

BIM 360 Design offers **powerful security** features, giving you the ability to:

- Share design data easily and flexibly with all project stakeholders;
- Restrict user access to certain folders and/or limit access according to user**,** role, or company; and
- Maintain backups of every version of every file that is synced and/or published, with the ability to rollback or recover any data.

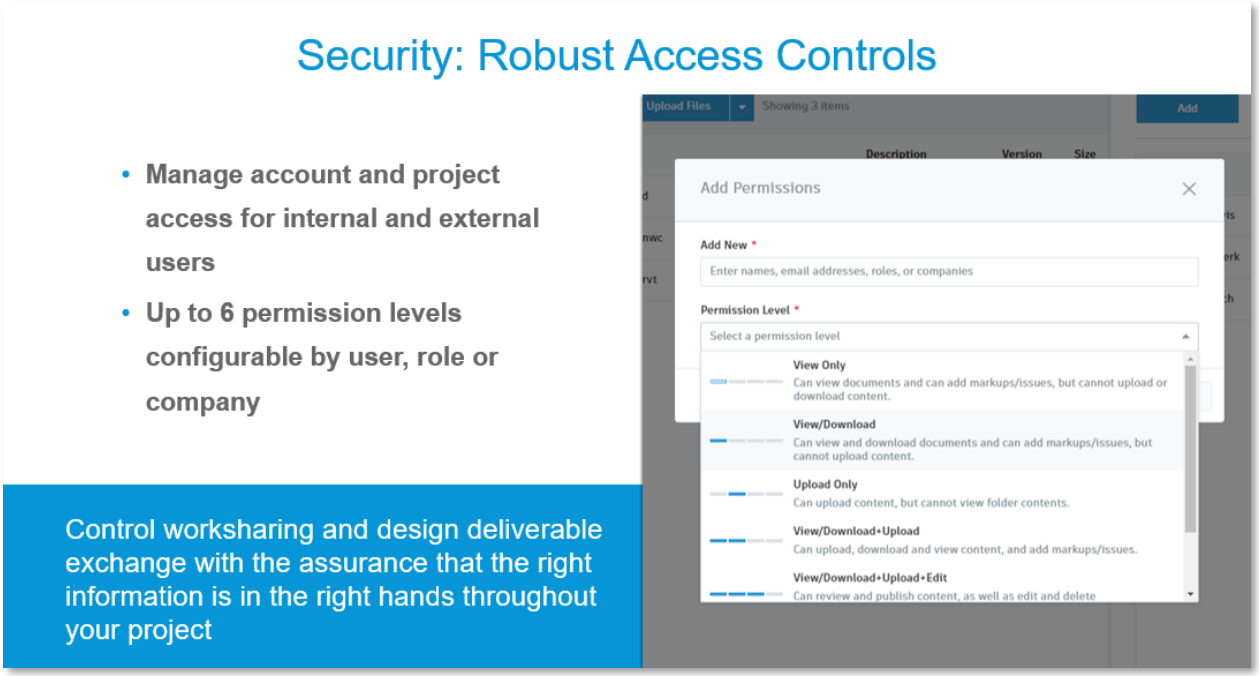

Figure 12: Robust Access Controls with BIM 360 Design

Customer Stories and Adoption

Customer Stories

The following are a sampling of quotes from Autodesk customers on the use of BIM 360 Design.

"Due to BIM coordination and multi-discipline collaboration, our project was delivered with **less than one percent rework**—on a typical job, we expect to have between eight to ten percent rework…**What used to take us six weeks, now takes us 24 hours**." - *Russ Dalton, BIM Director for the Americas, AECOM*

"Autodesk's launch of Collaboration for Civil 3D connects our horizontal infrastructure teams with other project stakeholders, allowing **real-time design collaboration across all lines of service**…The ability to incorporate horizontal design with vertical design teams has **made a monumental impact…on making the right decisions** for our partners at vital moments during the project lifecycle." - *Stacey Morykin, Design Technology Manager, Pennoni*

"Thanks to productivity gains, we'll be **saving more than 4,000 euros a year for each employee** that uses BIM 360 Design…When you look at the number of employees using the software and projects we're working on at any given time, we could be **saving hundreds of thousands of euros** from this implementation alone within the next few years. This is money that we will look to re-invest in new technologies." - *Thierry Monteyne, BIM Model Manager and CAD Support Engineer, VK*

"Using BIM 360 Design has increased our Revit and associated BIM productivity immensely…We are seeing **productivity increases of up to 25% on cloud-based projects** due to load and syncing times alone…Using BIM 360 Design gives us the certainty that our teams and clients are always aware of the latest versions and project developments." - *Anthony Woodsford, Associate/BIM Manager, Corstorphine + Wright*

"Collaboration in BIM 360 Design gave us a **cost reduction of 90%** and a **time savings of 20%** on the Brown University New Engineering Research Center project." - *Paul McGilly, BuroHappold*

Adoption

At the time of this writing, BIM 360 Design is being used:

- In 130 countries;
- On more than 60,000 active projects;
- Comprising nearly 220,000 cloud models; and
- Representing 10.3 million syncs in the past month alone.

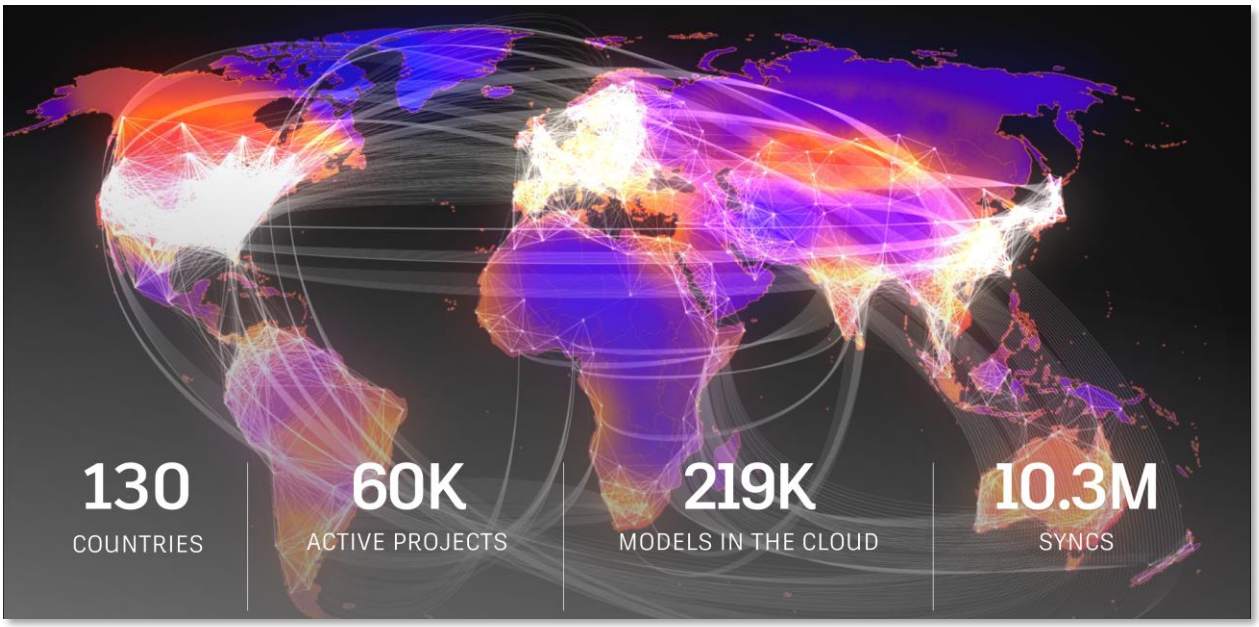

Figure 13: BIM 360 Design Adoption

Note: Based on past analysis of average times uploading/downloading models, we estimate that the number of hours saved using BIM 360 Design translates to roughly 30 minutes per sync. Thus, 10.3 million syncs translate to roughly 5.2 million hours saved (in aggregate). To put this in perspective, if the average employee works 2080 hours per year, the use of BIM 360 Design yields enough time savings to pay for nearly ***30,000*** employees! That's a significant impact.

Summary

Effective project collaboration is challenging and yet critical to improve project team efficiency and productivity. Autodesk BIM 360 Design is a cloud worksharing, design collaboration, and data management product for improved project delivery, built on the new BIM 360 platform.

BIM 360 Design comprises the Revit cloud worksharing capabilities that you may be familiar with from Collaboration for Revit, as well as two new BIM 360 platform modules: Document Management and Design Collaboration. The platform has been expanded to support Civil 3D and Plant 3D workflows as well.

With BIM 360 Design, you can co-author multidisciplinary Revit models, collaborate on Civil 3D and Plant 3D projects, and access data management and collaboration functionality, e.g. 2D and 3D file viewing with markup and issue creation tools, accessible from your web browser or mobile app.

BIM 360 Design also directly addresses the challenges most cited by design teams by (1) simplifying project accessibility, (2) improving project communication, and (3) providing robust data security.

In short, BIM 360 Design enables you to control worksharing and design deliverable exchange with the assurance that the **right information** is in the **right hands** at the **right time** throughout the project lifecycle.