



Openings Studio™



Opening the future of building
information modelling solutions
for architectural firms

ASSA ABLOY

Experience a safer
and more open world

Better collaboration through software

How can architects reduce mistakes while driving client loyalty? Simple.

What you'll learn in this whitepaper:

Deconstructing the building lifecycle

Collaboration with Openings Studio

Case studies

Adopting new technologies isn't easy, especially when it comes to processes built over time. But, for design and construction, aligning your systems to integrate with Building Information Modelling (BIM) standards can, and will, save time, effort, and frustration. Plus, it can add both significant value to processes and provide an opportunity to grow your business.

There are a number of emerging and interrelated trends bringing significant changes to the AEC industry. Integrated Project Delivery (IPD) is a relatively new construction delivery method that fosters a shared risk/reward alliance among owners, designers, builders, and suppliers. Sustainable construction now encompasses standards related to high performance building design (energy efficiency) and environmental and health product declaration documents. Maybe the most impactful change will be the shift toward lean construction practices and the renewed interest in modularization, prefabrication and pre-installed

hardware openings as cost saving alternatives.

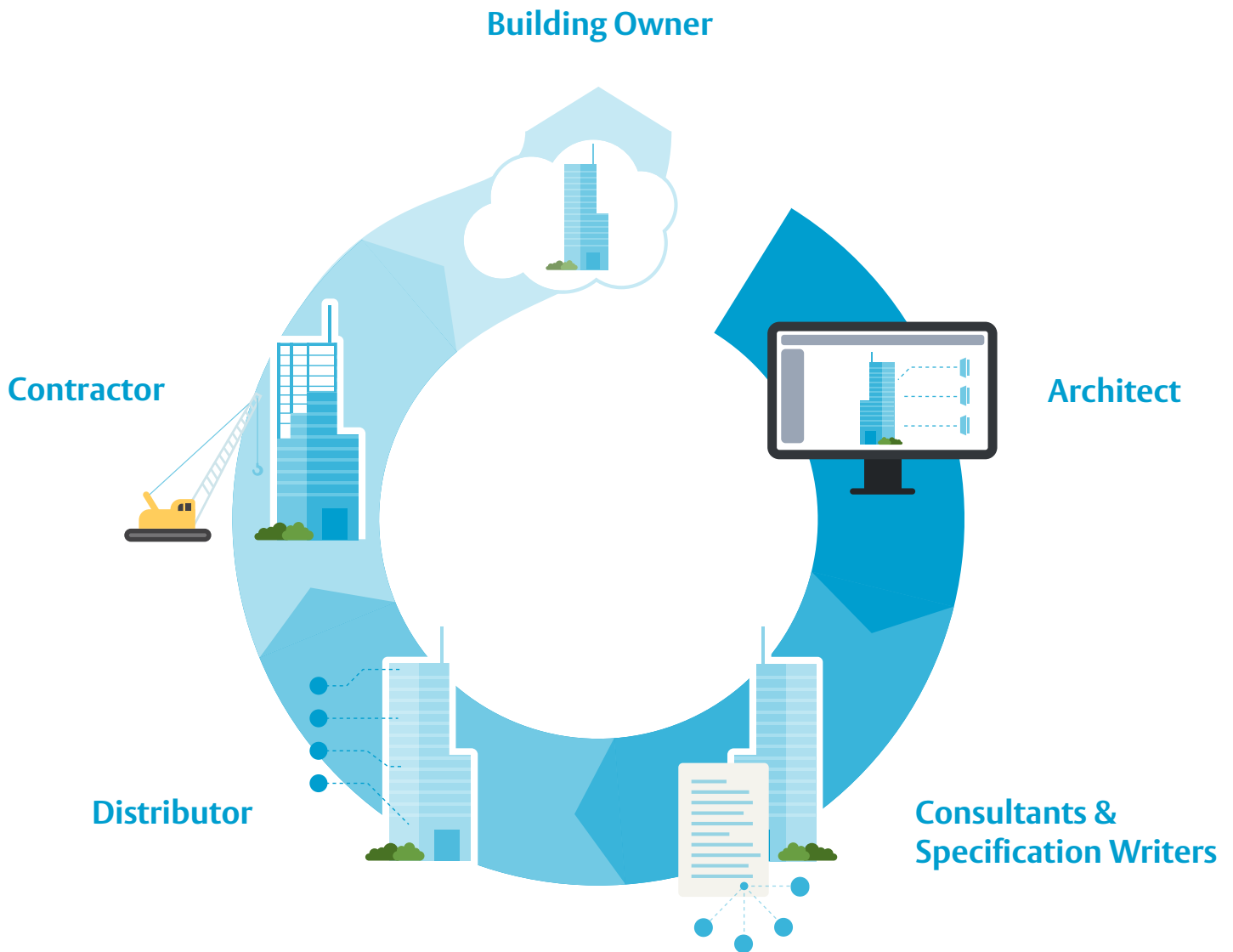
Arguably, BIM is the fuel behind the accelerated growth of these worldwide construction trends. Visualization, information, and collaboration bring greater clarity and efficiency to IPD, high performance benchmarking, and lean methodology and waste reducing practices. But the most important thing to convey here is that BIM adoption is a game-changer for collaboration, managing information, and overall operations for architects.

In the following pages, we'll walk through what you need to know to prepare for the months — and even years — ahead.



Deconstructing the building lifecycle

How can the BIM process affect collaboration?



“The goal is for all stakeholders and trades to collaborate within a single source of truth — the model.”

Sharing information isn't a new concept, but how we share that information has changed. Traditionally what was used were hand drawings or line drawings — complete with elevations — to communicate design intent. Once the design was complete, it was up to everyone down the pipeline to figure out how to execute the vision.

But architects have been adopting new technology solutions, as frustration with traditional methods have grown. Tech-savvy architects now use software such as Autodesk® Revit® or Graphisoft ArchiCAD to visualize, render and output documentation about a building. But the collaboration challenges still persist.

The goal is for all stakeholders and trades to collaborate within a single source of truth — the model. Scheduling, planning and maintenance is visible, because all of the information about a building is integrated and shared in near real-time.

Product information is meant to be shared across the “Building Lifecycle” from design and specification on to procurement, construction and installation and facility management. Then, the lifecycle finishes with disposal and aftermarket replacement.

Software is the enabling tool used to facilitate the BIM process. There are innumerable variations of BIM software applications developed to meet the specific needs of an architect, contractor, or facility manager. Interpret pre-defined standards from owners, as well as keeping them in the loop for all changes to the building model, is a key component to operational efficiency for an architecture firm.

Ultimately, this can and will save you time, money and frustration.



Unpacking building information

How the BIM process benefits architects

Regardless of where and how BIM software programs are developed and used, they all have one critical requirement to be effective: sharing and communicating information.

When most of us hear the acronym BIM, we think of 3D modeling and visualization. While digital representations of door and hardware applications offer an enhancement over conventional 2D drawings, modeling is only one part of the complete picture. In reality, exchanging information through a model is the more important benefit BIM brings to the entire building life cycle process.

The modern construction trailer is more likely to be outfitted with big screen monitors and laptops versus plan racks and drawing tables.

Content roles in a BIM environment

In a BIM environment, there are “creators” and “consumers” of information content. Creators add product data into the model for the consumers to extract and use in applications. The creators can be architects and specification writers working in the project planning, design, and contract documentation phases. Content refers to many types of product information including: quantities & sizes, construction materials, manufacturer names & descriptions, types & profiles, technical attributes, finishes, sustainability data, installation instructions and much more.

On the other end of the information flow are the content consumers. These are the contractors and end-users who want to leverage the information as a means to improve construction efficiency, reduce waste, and better manage installed products after occupancy. Distributors, and subcontractors, are right in the middle. As consumers, they need to extract data to streamline estimating and bid proposals. However, consumers can also provide “as-supplied” project and product details, thus contributing to the content creation process.

Merging the old with the new

In a digital world it’s all about being fast, accurate, seamless, and now more than ever... mobile. The modern construction trailer is more likely to be outfitted with big screen monitors and laptops versus plan racks and drawing tables. Most project sites are complete with hot-spots connecting to portable kiosks and hand held tablets. Virtual design, or the ability to “see before you build,” is used to identify and correct errors before materializing at the jobsite. The accuracy of the data and details within models is allowing suppliers to prefabricate off-site and avoid many unnecessary in-the-field assembly and issues, improving speed in the installation process.

Information from the model feeds the construction applications used for site planning and analysis, material take-offs, resource allocation, scheduling and phasing, spatial coordination, material tracking, and field communication. RFIs, deliveries, installation, and punch-out issues are tracked and updated via handheld devices and uploaded to the cloud. It’s an interconnected world built around information exchange and collaboration.



Distributors are able to harness and deliver information being created and consumed in a BIM environment.

Challenges for architectural firms

In a recent survey, major construction firms were asked to identify some of the challenges they commonly face when working with material subcontractors. Their top responses below are in many ways directly attributable to the accurate and timely flow of information...

- Change Management
- Material Tracking
- Installation
- Quality Control

Of course, these issues have been of concern to contractors long before BIM. However, the “new way” to seamlessly exchange data and information through objects and files is dramatically changing workflow processes. Change management, material costing and tracking, resource allocation, field verification and documentation are all moving away from the old ways of doing business.

Change is necessary, beneficial and constant

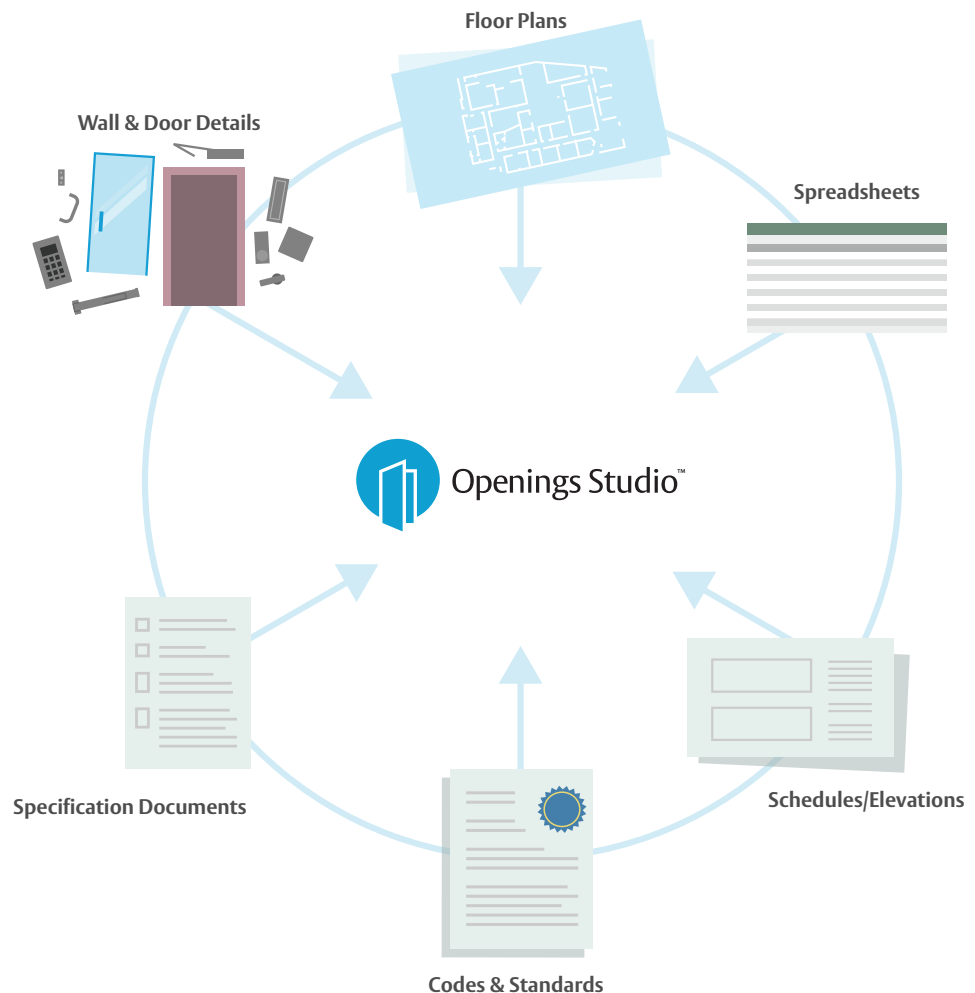
Construction is a very inefficient and wasteful business. Up to 40% of project cost can be attributed to construction waste. Traditional 2D document based workflow used for years in the door and hardware industry contributes to the inefficiency. Specifications, estimates, schedules, and submittals that are reliant upon disconnected text documents, spreadsheets, and technical drawings are inherent with errors and inaccuracies. A different approach has been needed for some time.

One complete process

Eventually, evolving building codes, owner protocols, and government mandates will follow in support of BIM delivery methods. BIM is becoming the next version of a Green and Sustainability movement. Today, door and hardware objects are already available to download from a variety of internet sites and vendors. Sophisticated software applications are being used by architects and contractors to create, visualize, and modify 3D door and hardware openings and embed manufacturer product data into the models. BIM generated files are being exported for use in estimating, scheduling, and project management and virtual “door libraries” are replacing paper based owner specification and construction guidelines.

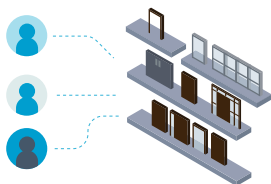
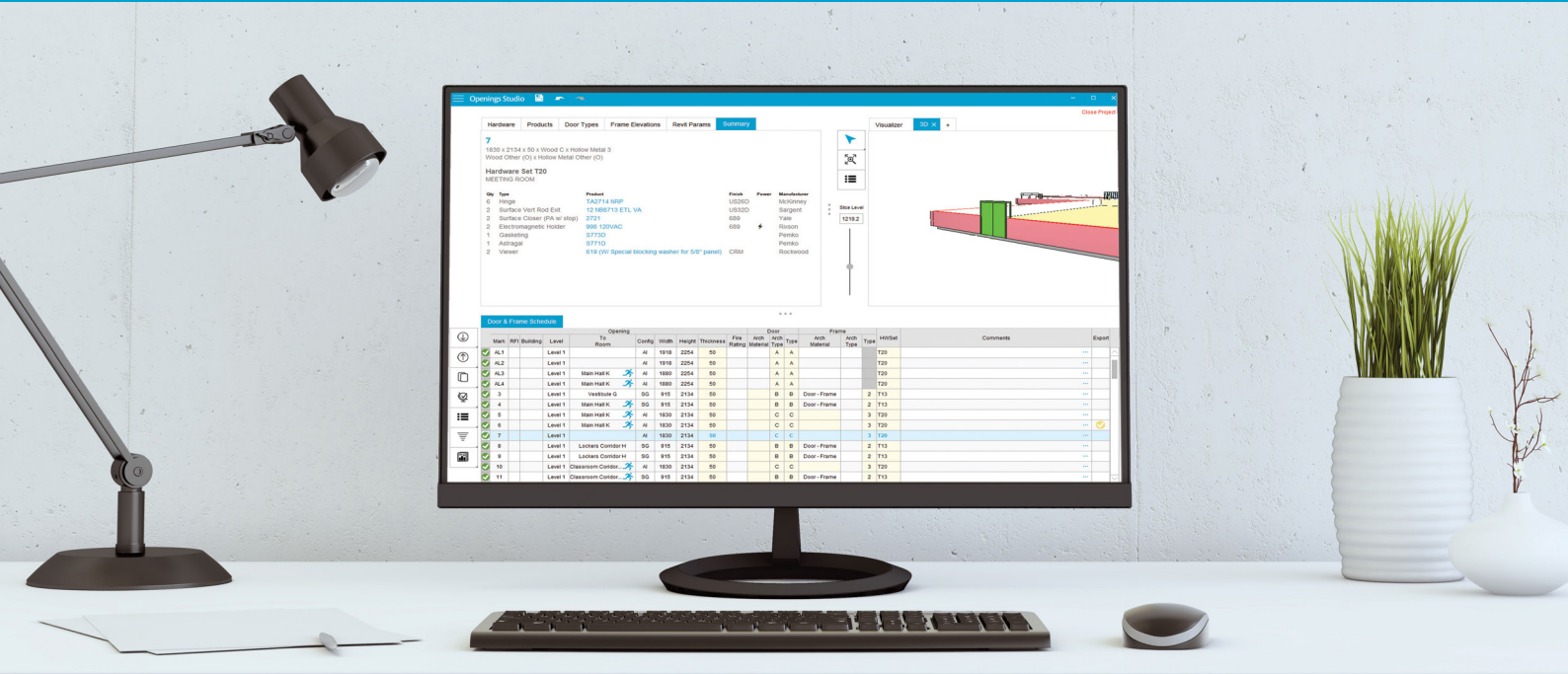
The manner in which distributors are able to harness and deliver information being created and consumed in a BIM environment will define their value-add for future business. Those unable or unwilling to move forward with acceptance may indeed find themselves left behind as the innovative leaders transform the industry for the next generation of distribution.

In the next few pages, learn how the award-winning solution Openings Studio is addressing challenges and providing value to architects.



Get acquainted with Openings Studio™

Openings Studio™ is a software tool designed for all stakeholders in the building process—for the entire lifecycle of the building. It integrates directly with design software, such as Autodesk® Revit®, to seamlessly transfer project data for complete door hardware schedules and specifications.



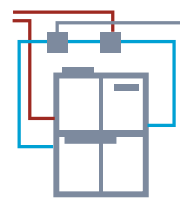
Virtual Design Guides

The Virtual Design Guide puts decision-making back in your hands. Specify products at the start of the project, and virtually share design guidelines with architects before planning begins. Architects can download existing door families for inclusion into BIM, allowing for consistency and accuracy in the specification at the beginning of the project.



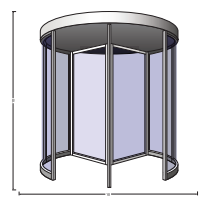
Smart Tagging

Looking for a better openings management tool? Don't waste time reordering the wrong parts. Create and print smart tags directly from Openings Studio™ to be placed on doors. Then, scan the smart tag to access a list of all opening specific hardware, installation information and product manuals for quicker maintenance and replacement.



Electrical Elevations

Security consultants, electrical engineers and more can now generate 3D access control product applications and elevation drawings. Replace the traditional way of creating line drawings and elevations with Openings Studio™. Streamline basic electrical drawings, annotations, scheduling and tagging of floor plans directly into a 3D BIM environment.

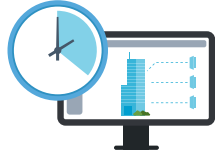


Autodesk® Revit® Door Families

Build thousands of door families with customizable frames and door types. Create hollow metal, wood, aluminum, curtain panel doors, swinging doors, surface sliders, pocket doors and more!

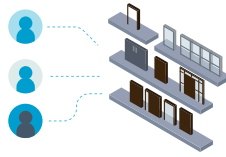
Openings made easy.

Ready to participate in the BIM process? Keep track of installation instructions, manuals and more with Openings Studio™. With features such as the new Virtual Design Guide and Smart Tags, you can define how openings should look before the process begins, and then stay current with product information, catalogs, installation guides and more. Continue reading for use cases demonstrating how Openings Studio™ alleviates common operational headaches.



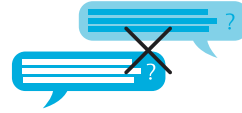
Save Time

More efficiently manage building projects



Easy Collaboration

Gain universal access to design standards for all stakeholders



Eliminate Confusion

No more costly mistakes when communicating with spec writers



How BSA Lifestructures optimized its operations with Openings Studio

Optimizing operations with changing dynamics in the architectural, engineering and construction industry

BSA Lifestructures is based in Indianapolis, Indiana and has six regional offices around the U.S. They provide design and engineering services to industries such as healthcare, research, and higher education. And due to the complexity and sensitivity of many of the projects BIM Director of Engineering Matthew Warren's firm works on, he's always on the hunt for good technology solutions. He's also looking for tools that can help with data collection and management.

Matthew can attest to the shifting requirements and changing dynamics in the architectural, engineering and construction industry. He joined BSA LifeStructures more than 20 years ago, and experienced the very beginnings of the building information modeling revolution. Through his ongoing work and experience and a background in engineering and architecture, he's been quick to see the value and benefit of sharing information across disciplines.

He has picked up ever-increasing responsibilities and oversight of new teams with varied backgrounds and skill sets, which helped to shape and diversify his knowledge and background. This experience helped him to look at the way the firm operated holistically, with fresh eyes, and to ask bold questions. "When I ask questions, I'm asking a question out of innocence, which helps to reduce any defensiveness. It's because I am new to what they're doing day in and day out." said Matthew.



His background in engineering and architecture allows him to quickly see the roadblocks and figure out the common challenges. Sometimes he's looking for ways to reduce the number of meetings, sometimes it's a matter of using a technology solution to bridge a gap in skill.

"There are a lot of tools that are just a different way of doing the same thing or a new shiny object but don't really improve the process or make it more effective," said Matthew. "When we look at technology, we really research it and ask if it truly changes the workflow."

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"I am always open to discussing what we can do with our BIM models to better serve our clients and the overall A&E design and construction process."

Matthew Warren,
BIM Director of
Engineering

Enter Openings Studios — the leader in door openings solutions

When it comes to openings and door hardware, Matthew noticed that the industry - once very straight-forward - has become more complex, trending towards a higher level of sophistication with electronic access control. This technological shift and diversification in product options has required a higher degree of competency and skill. "My ultimate goal is to find ways to help the architects and engineers be better at what they do. I am always open to discussing what we can do with our BIM models to better serve our clients and the overall A&E design and construction process," Matthew said. He further explained that "It's a matter of how to quantify the overhead costs, and being able to provide this information back to the firm's decision-makers." After estimating how much time and automation are needed, Matthew presents the cost savings using BIM to the project manager.

That's partially what drew Matthew to Openings Studio, a Revit add-in developed by ASSA ABLOY. Openings Studio enables architects and BIM managers to collaborate with hardware specification consultants with just a few clicks. The plugin integrates with Autodesk® Revit® by sending opening information back and forth within a model. As the project evolves over time, changes to the model are flagged, and a specification consultant can review and adjust the door schedule quickly, easily and accurately.

"Door schedules are a very stressful process," said Matthew. "With Openings Studio, we're able to streamline and compress the conversation about what hardware goes where, and mitigate the potential errors."

But, it's not just the plugin that's key to the project. It's the expertise that the ASSA ABLOY consultants bring to the firm, and their collaboration on each

project that helps ensure ongoing success for everyone involved. In-person and team training, as well as access to an online Knowledge Base, shows that the software tools are backed by a company with a vested interest.

"The level of support is very good. Internally, online and in-person, we appreciate the support we've received. My local ASSA ABLOY representatives - and in particular, Tom Tuttle - has always been responsive and the level of support available for Openings Studio has been great," said Matthew.

Plugins such as Openings Studio can also offer a level of stability in times of uncertainty when it comes to employee departures and the on-boarding of new employees. Having project information and changes stored in one location for reference means that people can catch-up where a project was left.

With Openings Studio, we're able to streamline and compress the conversation about what hardware goes where, and mitigate the potential errors.



ColladoCollins saves time on door schedules and specifications with Openings Studio

ColladoCollins Architects and ASSA ABLOY have worked together on the up-and-coming refurbishment of The Shredded Wheat Factory. The ASSA ABLOY Opening Solutions UK & IE Specification team partnered with the firm to provide expertise not only on hardware, but software, too. Using Openings Studio, the firm was able to save days, even weeks of time on their door schedules with openings made easy. We asked Martin Russell, architect for Collado Collins Architects, about how he used Openings Studio to work on the more than 7000 door project.

How has the Openings Studio software and the consulting service provided by ASSA ABLOY impacted your projects door scheduling and specification work process?

Utilising the advice from ASSA ABLOY and Openings Studio has meant that our architectural team can be freed up from working through ironmongery schedules and focus on other items knowing that the specification and integration of the ironmongery is in hand and will seamlessly feed back into the project within the allotted timescales. We have continued to utilise ASSA ABLOY and Openings Studio integration on our practice's other projects due to the time saving benefit and professional service that we receive.

What did you notice most in transferring information between Revit and Openings Studio?

This was an easy process, which on a project of this size sharing the information can be difficult both in terms of the file sizes and providing the relevant information. In terms of the prompts that you receive from Openings Studio this makes the information transfer clear, concise and easy to follow. The follow up phone call and discussions regarding the specification and determining the exact needs of the project ensures everything is captured.




What were some of the differences between using software versus traditional methods?

In a project with over 7,100 doors the time saved in inputting the data in to each of the Revit objects would run into weeks. If traditional methods had been used the information would be provided as a separate schedule which would then require a Revit operator to manually add this information back into Revit and then another person to check this information is correct. As the project develops this would then mean that the information may not be up to date when received and would require the individual doors to be flagged up and then re-sent for advice. As Openings Studio flags up the queries and changes live it is easy to see any discrepancies and changes and by re-sharing the model information it then also allows ASSA ABLOY to see the changes live and feed into this.



Want to hear more about ColladoCollins' experience with Openings Studio?

Watch the video version online. 

How Skanska utilized Openings Studio for better collaboration and fewer headaches.

Headquartered in Sweden, Skanska is a multinational construction business behind such prestigious global projects as New York's World Trade Center Transportation Hub, Sweden's Malmö Live and London's Gherkin. Skanska Norway, the Scandinavian arm of the business, is similarly active throughout the region – and relies on Building Information Modelling (BIM) for collaboration, coordination and creation of ground-breaking projects.

Skanska Norway oversees a wide range of projects using BIM throughout their lifecycle – making things easier from start to finish. Working with Autodesk® BIM 360™ Field, and partnering with Trioving ASSA ABLOY and BIM-enabled subcontractors, the whole process is streamlined and knowledge sharing eased.

Architects and specifiers use BIM to deliver more feasible, innovative and buildable 3D designs, as well as supporting coordination, installation and as-built data consolidation. Data from BIM objects is then available throughout the production phase; helping Skanska achieve a more efficient, completely paperless construction site. Let's take a typical example. Skanska subcontractors can use iPads on site to scan QR codes on a door. Instantly, they'll have access to all information about that door, as well as its associated hardware, controls and accessories – including 3D models and sketches of the complete door solution, wiring diagrams, hardware sets and collateral data.

Real-time information sharing and collaboration amongst all stakeholders reduces the barriers between teams both on and off the construction site – everyone knows exactly what's needed, and what stage the project is at. For example, with data from Trioving ASSA ABLOY feeding directly into Skanska's project management system, managers can follow the status of installations, granting greater transparency and control over the project. The overall result: faster, easier and safer processes



and handovers; higher productivity; reduced waste and duplication of effort – and, with mistakes eliminated, jobs done right, the first time.

In the long term, the impact of BIM on Skanska projects is significant – enabling this industry leader to set ever-higher standards for performance, comfort, reliability and sustainability in the world of construction. This is all made possible through Openings Studio™ seamlessly sent information to Autodesk® BIM 360™ Field – easing not just data capture and access, but sharing too.

Everyone from the installer to the electrician, from the architect to the specifier, has access to key data.

We're working together to use the information created by our designers throughout the production phase to follow up the status of installations in a much more efficient way than we've been able to do in the past.



Better Data Management

“I need an efficient & seamless working environment where internal & external stakeholders can work with accurate & organized data.”

Carlos is an architect who inherited the family business a few years back, but hasn't really updated any of the technologies being used. He's excited, as his firm just won the bid for a series of new corporate campus buildings for a multinational corporation that is coming down. The entire project consists of buildings being built on three different nearby campuses, one of which is located just across state lines, and all three have different completion dates.

The company Carlos runs is known for being more accurate with estimates and pricing than other, larger firms in town. But with this new corporate campus project, he's concerned that it will take a lot of time and energy to ensure mistakes aren't made. He's also concerned about miscommunications that ultimately result in hurting the bottom line because of the various people involved in an ongoing project, including specification writers, building owners, distributors, and contractors. Getting them

current information to work with is at a premium.

Carlos says he's interested in finding a solution that will allow for an efficient and seamless working environment where internal and external stakeholders can work with accurate and organized data. It led him to download and install Openings Studio, which works as a plugin for the Revit software he and his team were already using. It also has the benefit of downloading all building information into the platform, and updating changes back into Revit when needed. Any time there's a change to the building plans, door families, or new requests from the client, the information can be updated in Openings Studio and made available in real-time to every other person involved.



Meeting Customer Needs

“I need to respond to my client’s feedback on my complete door solution in real-time.”

Paul is an architect working on a tight schedule to complete a medical specialist campus extension for the city’s largest hospital company. This project is slightly different than the buildings he’s usually involved with managing, in that there are almost twice as many doors needed — as well as special hardware for doors related to standards or security.

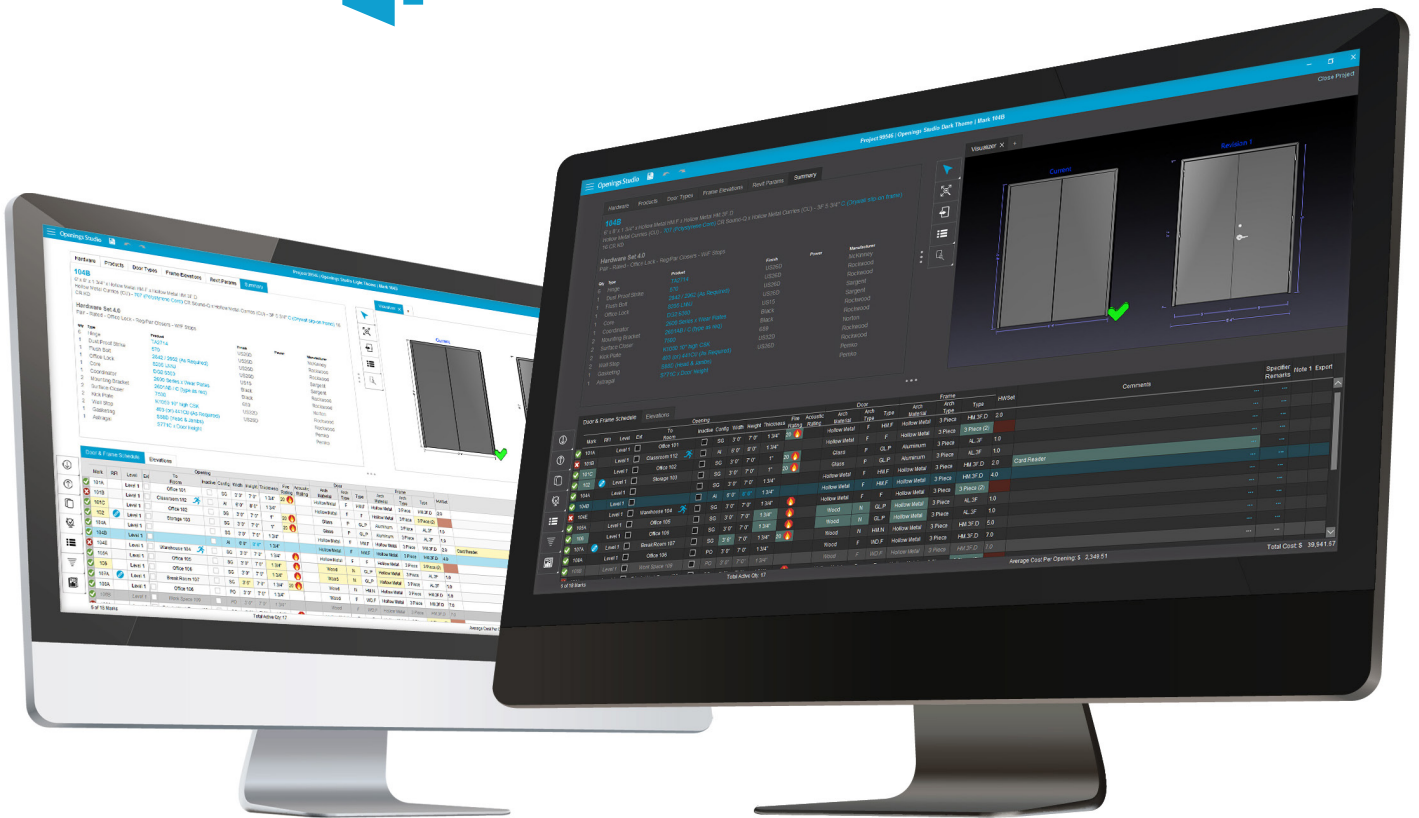
On top of that, the company behind the medical building project was purchased by a new larger company with its own visions of what a building should look like, including doors. Therefore, it’s necessary to periodically check in with his client on door solutions to ensure everything is what it should be. But each time something was done incorrectly, if gone unnoticed, could set the project back days, weeks or even months.

With that said, Paul felt it was time to find a solution that would allow him to quickly and easily share completed door solutions with other stakeholders as soon as they’re finished. With Openings Studio, this action is far easier than ever before.

With the software, Paul can generate Virtual Design Guides, which are universally accessible on nearly any device, to show door solutions to owners and facility managers. This is also useful as it can help Paul provide accurate pricing estimates to his clients, thus ensuring that nothing goes over budget without approval. It also means fewer mistakes can be made, and that projects won’t be delayed even if his client doesn’t reply immediately — as updated plans are just as easy to generate and send.



Openings Studio™



Change the way buildings are designed & managed

BIM can both add significant value to your building design and construction process, and provide an opportunity to protect your investments. Visualization, information, and collaboration bring greater clarity and efficiency to building and construction, providing high performance benchmarking, and lean methodology and waste reducing practices.

Sharing information about your openings has never been easier. Taking the first step is easy with Openings Studio™. Leveraging a non-proprietary database from manufacturers around the world, we can easily help you define common standards and establish design guidelines with the Openings Studio™ Virtual Design Guide.

Simply contact your local consultant today to get started creating your next building's door library to share.

For more, contact:

The ASSA ABLOY Group is the global leader in access solutions. Every day we help people feel safe, secure and experience a more open world.

ASSA ABLOY