

BIM FOR DISTRIBUTORS: SAVING TIME AND COSTS



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Building Information Modeling is rapidly growing in popularity throughout the building and construction sector. Cloudbased and always up to date, this collaborative, networked tool is enabling distributors to save costs and save time.

Introduction

Distributors are one of the central agents at the heart of any new building and construction environment. From material procurement to timely delivery, distributors ensure that whatever is required at every stage of the building's creation is provided. However, the process, even when working well, leaves a lot of room for improvement because savings can be made, quality increased, and timings better coordinated. The best way to do this is through Building Information Modeling (BIM), a collaborative cloud-based tool*¹ that facilitates and coordinates every detail of a building's development from start to finish.

This e-book is aimed at distributors who want to know what BIM is and why it is so important not only for today but also for the future of the construction industry. It outlines how BIM works and how it can make a real difference throughout the value chain. It also highlights that by teaming up with ABB, BIM ensures that you as a distributor can benefit from BIM in several ways: firstly, to become more efficient, making significant time and cost savings; secondly, to be part of the digital transformation, be further upstream of projects, and increase business and customer bases; thirdly, to help lead your customers towards the digital future of building design and maintenance.



This e-book is aimed at distributors who want to know what BIM is and why it is so important not only for today but also for the future of the construction industry.

¹ A common data environment (CDxE) is a digital information platform that centralizes project data storage and access, typically related to a construction project and BIM workflows





BIM: GET TO KNOW IT

Building Information Modeling is a comprehensive, integrated, and digital approach to envisioning, designing, constructing, and operating a building. By using 3D data models, BIM makes it possible to involve all project participants in a construction project throughout a building's lifecycle, from conception and existence right through to demolition. This approach allows for extremely efficient implementation. Construction planning with BIM intervenes early in the process and is therefore more proactive than traditional methods of construction planning.

Paperless, cloud-based, and with a common data environment, the ongoing evolution in the development of BIM has shown it to be a powerful tool that helps reduce costs throughout the lifecycle of a building at the same time as improving the quality of execution and building. Until recently, BIM was seen as a dynamic tool that was primarily for architects, planners, and some other key members of the value chain. In fact, this was incorrect, and as increasing numbers of distributors are discovering, rather than potentially useful at some undetermined point in the future, BIM is a game-changing tool for them now.



The Construction Value Chain; Main actors

CHAPTER 1

BIM: DISTRIBUTOR POSITION

Building Information Modeling has been a revolution in building architecture, but also in engineering, and across the entire construction sector. BIM enables construction professionals to create comprehensive digital representations of building projects. Electrical intallations play a key role in any building project, which makes it crucial for distributors of electrical material to educate themselves to work ,The BIM Way' and integrate a new, more collaborative approach to working on a building design and construction into their daily working processes.

This white paper highlights the position of the distributors into the building construction value chain and proposes an effective and methodical approach to getting started with BIM.

BIM optimizes the entire process for distributors, from planning, cost calculations and purchasing to construction, operation, and demolition.



KEY ROLE OF DISTRIBUTORS IN 4D AND 5D

Within BIM, the most relevant areas for distributors come under what is labelled 4D and 5D. In the fourth dimension, BIM adds scheduling and planning information to better model construction sequences. In effect, 4D improves the time dimension of a building's planning and construction – for example, by collaborating through BIM with other stakeholders, distributors know exactly what needs to be delivered, exactly where products need to be delivered and exactly when they need to be delivered.

In the fifth dimension, BIM adds cost information to every stage of the lifecycle. This provides more accurate cost estimates, and at various stages distributors can compare predicted and actual costs, and they can subsequently identify issues and how to make improvements on future projects.



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CHAPTER 2 BENEFITS OF BIM FOR DISTRIBUTORS

Implementing BIM offer offers several advantages at different levels for a distributor: being a comprehensive, integrated, and digital approach to envisioning, designing, constructing, and operating a building, BIM makes it possible to involve all project participants in a construction project throughout a building's lifecycle, from conception and existence right through to demolition. BIM intervenes early in the process and is therefore more proactive than traditional methods of construction planning.

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More **collaboration with other stakeholders** for better anticipation and knowledge of building projects to come. Collect information from architects, engineering offices, contractors and suppliers at the same time. This will reduce errors, minimize miscommunication, and avoid delays.

Clearly **visualize the product** or solution in its end use to be able to accurately specify, from the outset, the right product/solutions and identify opportunities to add complementary devices and enhamnce the offering.

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+ 21 Issue of the **bill of materials** with the right type of device and the right quantity needed to efficiently manage stock.

Quickly **respond to changes** by accessing the BIM Common Data Environment (CDE*) where all stakeholders share real-time information related to the building project (technical changes, logistics changes, clash detection reports...etc).

Add **service offerings**: by visualizing the building through the digital model, it is possible to identify value-added services such as energy saving studies, recommendations on a decarbonized alternative, waste collection on site...etc.

Increase **customer satisfaction** by providing accurate and precise data enavbling them to make sound choices and proposing alternative cost or space efficient technical solutions thanks to your enhanced knowledge of the overall building project, coupled with your industry experience.



ABB BIM FOR DISTRIBUTORS

By using BIM, distributors help refine the logistics on site by delivering at the right time and to the right place. A further refinement might be to supply QR codes on boxes that provide precise information on where this material fits into the project Gannt chart.

ABB's BIM package for distributors provides benefits in a number of ways:



saves money by optimizing estimation and quotation processes and onsite deliveries

differentiates your offer from that of competitors

Optimizes demand planning and is more responsive to contractor project needs

identifies sales opportunity earlier

responds to project quotes quickly

serves customers better while simultaneously improving back-office processes The benefits are clear, BIM brings greater efficiencies and subsequently saves time and money, from start to finish.

BIM is a technology that is continuously being refined, which means it is a two-way street of learning, gaining experience, sharing best practices, and training. ABB provides comprehensive training for distributors, from those with little or no prior knowledge, to current BIM users wanting to upgrade their skills. ABB helps manage the entire BIM workflow, providing digital tools and training, as well as containing all our BIM products into one catalogue for easy selection. There is a wide portfolio of products in the ABB library and external BIM platforms and our BIM models contain manufacturer codes, functional data, geometry, different visualizations, parametric modelling, plug-ins to configure ABB wiring accessories and metadata information.



CHALLENGES AHEAD

The challenge of digitalization:

BIM is a new technology requiring new software and hardware. Specific focus on interfaces between existing communication equipment will have to be considered for investment in new tools.

There is no standard approach to digital transformation. Without a strategy it is impossible to meet the demands of customers today while digitalization makes it possible to optimize work.

BIM is all about allowing direct access to the most up-todate versions of project files and data, avoiding errors, loss of information and duplication of work.

The challenge of sharing:

Embracing an organizational culture, where knowledge sharing, learning and collaboration is established is essential working ,The BIM Way⁴.

The heart of BIM is its CDE (Common Data Environment): a digital information platform that centralizes project data storage for all stakeholders to access, typically related to a construction project and building information modeling (BIM) workflows. All the data regarding a construction project is stored in the CDE and changes, comments, reports, etc. are directly available on line for all stakeholders in the construction value chain for the entire life-cycle management of a building.

Typically key information adjustments for a distributor like technical changes, different delivery address, change in planning schedules are available to anticipate errors from the first moment they are visible in the CDE.

As a consequence, the way the organization is set up will have to be reviewed and transformed to match with the common language of all BIM value chain stakeholders. \bigcirc

CONTACT US

The challenges of sustainability and quality:

Sustainability control is easy with BIM because it gives access to all data and product information. Today the world is changing fast and to be competitive, to know where the customers are and what they expect, only a large network can respond to this: this is what BIM offers.

BIM is essential to ensure Quality Assurance in construction projects . It allows you to save time and money avoiding costly fixings and overall delays on site. A distributor is particularly responsible on two aspects: cost control and logistics. BIM allows you to know, identify the Quality requirement of the project (Quality Assurance Plan) adn deliver on it.

Initially BIM requires training and adaptation, once done it is done for everything that comes.



Working with BIM can mean a cultural shift, but by adopting this mind set today, you will be able to respond to evolving customer needs and offer excellence throughout your projects.



CHAPTER 3 BEST PRACTICES-1

ightarrow Invest in training

Provide employees deep knowledge on BIM software to enable teams to make efficient use of the BIM tools and get used to procedural and work flows.

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Nominate a BIM referent within your team

Main mission: be the privileged spokesperson with BIM project stakeholders including the ABB BIM team experts, collecting and sharing information on BIM projects coordinate BIM plan within thier organization, and participate in ABB BIM reviews.

Create a dedicated landing page with a BIM Plugin

Providing customers visiting your website with ready to use BIM solution packages.

Include a link to download ABB BIM objects

Provide your customers direct access to ABB BIM Objects to configure projects and ease the Customers journey.



Insert a link to BIMagic[®] Designer in your website for your customers

Fully integrated with Autodesk Revit[®] BIM software, ABB BIMagic[®] Designer makes locating and integrating products into the BIM design quick and easy though a simple self-service for all users.

Collaborate with building construction stakeholders

Open discussions with architects, engineers, contractors, and installers at the very early stage of the building project lifecycle. Start collaborative partnerships to exchange information exchange and better coordinate, creating the possibility to enter into the customer's projects.

Elaborate your own BIM offer

Innovate to provide ready to use solutions for customers visiting your website to attract new projects

Institutionalize data

Build a template for data exchange to facilitate information sharing with BIM projects stakeholders: compatibility with ERP information systems.



PROPOSED STEPS TO FOLLOW



Get trained on:

- What BIM is
- How to maximize its benefits

Search for BIM software:

 Contact BIM solutions/services providers

Include your own BIM models into your offers:

• Design ready to use BIM offers

Make sure you can integrate BIM data into your ERP:

• Search and acquire interface software



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Adapt your organization:

- To respond to handle cost and time:
- Appoint a BIM manager
- Redefine roles and responsibilities

Open collaboration with the construction building stakeholders:

- Architects, Consultants, Contractors, Large Installers
- Discuss with existing customers to assess their needs

Create a dedicated BIM support netwrok for your customers:

• Provide the information and services your customers need to work with BIM.



CHAPTER 4

SIMULATED CASE STUDY

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ElecDistri is an electrical distributor that wanted to enter BIM projects

ElecDistri has first invested time for educating and training their staff on BIM. They get to know deeper what BIM is and which type of software to use especially for engineering and technical office teams as well as for their salesforce.

ElecDistri has then build their specific ElecDistri BIM offer ready to use for their Customers, which includes detailed technical specification, the size and dimensions of the selected products, the technical characteristics and performances, possible alternatives as well as cost information and delivery schedules and the availability of the equipment.

The company has invested in a software to communicate with its ERP system and be able to exchange BIM data internally and also with external stakeholders including Customers dealing with BIM projects.

ElecDistri has initiated relationships with architects and engineering offices of contractors to start collaboration on projects mainly for office headquarters and commercials buildings. ElecDistri can adjust their offer thanks to BIM model exchanges, avoiding clashes on the product selection and delays in logistics and installation.

ElecDistri has implemented a dedicated BIM support network to their customers: they can provide BIM models and configure BIM projects easily to their Customers, simplifying the Customer journey, as ElecDistri BIM models can be directly inserted into the BIM project.

By reorganizing the tasks of their employees and having adjusted their Information System, ElecDistri could reduce time spent on some of them and reallocate resources to more added value missions.



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Get on board the BIM train

There is a revolution happening right now in the building-construction industry. Building Information Modeling is a modern, dynamic tool for the construction of buildings that allows different stakeholders the opportunity to work together at a higher level of collaboration than ever before, bringing with it numerous mutual benefits – from cost and time savings to building sustainably and reducing your company's carbon footprint. And as well as architects, planners, and engineers, increasing numbers of distributors are getting on board the BIM train.

ABB has a network of experts on hand to guide distributors through every step of the entire BIM workflow. From selecting products and giving quotations, to bills of materials and getting the right software, ABB is your BIM partner. Some distributors have never used BIM, others have more advanced knowledge. We will adapt to you: wherever you are on your BIM journey, whatever your BIM knowledge, we will tailor our support to your specific implementation needs. Collaboration has never been easier, and the results for distributors come in significant time and cost savings.



BIM FOR DISTRIBUTORS: OTHER USEFUL INFORMATION



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GO GREEN WITH BIM

Just as important is that BIM's efficiency savings reduce waste, from design to construction, which lowers the building's carbon footprint. Sometimes known as 6D, BIM is expanding to address sustainability in infrastructure and construction projects.

This, of course, ties in with the core values of ABB, as seen in our 2022 <u>Sustainability Report</u>. We are committed to reducing our own emissions by at least 80 percent and achieve carbon neutrality in our own operations by 2030. And as the report shows, ABB's automation, electrification, and digital solutions are accelerating industrial decarbonization.

Decarbonization in the building sector is a major concern, but the positive news is that BIM is increasingly becoming a key factor in creating much more sustainable buildings. According to research in the US from the National Human Activity Council, people spend almost 90 percent of the day in buildings. And a report by the United Nations Environment Programme says the buildings and construction sector "accounted for over 34 percent of energy demand and around 37 percent of energy and process-related CO2 emissions in 2021". The report also notes that "The sector's 2021 operational energy-related CO2 emissions were up 5 percent over 2020 and 2 percent over the pre-pandemic peak in 2019." While BIM already plays a central role in new buildings being carbon neutral, now is the time to utilize BIM to accelerate the retrofitting of existing buildings so they reach carbon neutrality by 2050.



PEOPLE SPEND ALMOST 90%





BUILDING AND CONSTRUCTION SECTOR ACCOUNTED FOR OVER

34% OF ENERGY DEMAND

AND APPROXIMATELY **37%** OF ENERGY AND PROCESS-RELATED CO2 EMISSIONS





POPULARITY IN EUROPE AND NORTH AMERICA





40% OF ARCHITECTS IN THE WORLD ARE ESTIMATED TO HAVE USED BIM

RESEARCH RESULTS SHOW THAT IN THE NEXT TWO TO THREE YEARS

72%

ENGINEERS

CIVIL

89%

18

ARCHITECTS

80%

MEP AND STRUCURAL ENGINEERS

69%

CONTRAC-TORS

GROWING POPULARITY

Though BIM is an evolving technological solution continually under development, it is rapidly growing in popularity and usage in Europe and across North America. Research suggests that BIM is used on approximately 50 percent of building projects and it is rising year on year. In 2019, more than 40 percent of architects in the world are estimated to have used BIM, and it is thought that architects' current use is around 60 percent.

Over the next two to three years, research suggests that 89 percent of architects, 80 percent of MEP (mechanical, electrical and plumbing) and structural engineers, 72 percent of civil engineers and 69 percent of contractors will be using BIM. Such is the rate of up-take, the value of BIM is projected to almost double, from USD 5.9 billion in 2021 to around USD 10.7 billion by 2026







ABB BIMagic[®] Designer is a free, easy to use BIM tool that allows you seamlessly integrate ABB products into your projects quickly and precisely from our comprehensive, everexpanding BIM product catalogue.

ABB BIMAGIC® DESIGNER

An e-catalogue providing: ABB **single repository** for all BIM Revit files, Selection based on **ABB offering tree**, Product **images** provided, Connection to **product page** for detailed product info and documents, Accessible **without registration.**

A configurator and a selector: Supports users to configure complex switchgear/switchboard ABB BIM Revit files, Filters criteria to sort out the right BIM Object, Accessible with registration (SSO for ABB user and common credential with others ABB tools for External users_distibutors and their customers, Statistics available via the tool.

Use the web version



Download Autodesk Revit Plug-In



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ABB BIM COURSE TO START WITH BIM

In this course, participants learn:

The aim of BIM and its impact on the construction environment

How to capture BIM benefits for each project stakeholder all along the building life cycle

How to support your customers finding and using ABB's BIM content

We run seminars on 4D and 5D, provide a list of 4D and 5D software, and show you how to get support from our BIM partners. ABB inserts BIM files into ABB product pages to your website, optimizing your BIM product portfolio. We also provide consultants to help you to implement BIM in your process, demonstrating how to select the right contents among the BIM files and plug-ins for your audiences.



Such is the rise in demand for BIM, we have trained companies from the UK, Netherlands, Germany, France, and Scandinavian countries through to India, Singapore, China and Australia.



ABB BIM WEB PAGE



ABB BIM OBJECTS DOWNLOAD CENTER

GO TO WEBSITE







Visit ABB BIM website to discover ABB support and tools to accompany you in the BIM journey

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BIM is our way

ABB BIM solu for your sma

BIM is our way to collaborate with BIM users to d

hrough BIM and to create their buildings' digital twi to create sustainable



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For a deeper insight into BIM, see our other e-book: The Electrical Chapter of BIM: Challenges and solutions

DOWNLOAD

Or contact us directly:







