

THE IMPORTANCE OF PREPARING ACCURATE SPECIFICATIONS AND HOW YOU CAN GET HELPFUL SUPPORT



Honeywell

SPECIFICATIONS ARE CRITICAL FOR SUCCESSFUL PROJECT OUTCOMES

A specification acts as a guide for a project's technical delivery or desired outcomes and a tool for clear communication between the customer, general contractor and subcontractors. When the specification isn't clear, cost often increases later in the project due to rework, disputes, timelines, and functionality requirements that aren't met. Having clearly defined specifications upfront – and the involvement of an experienced vendor – can help mitigate these issues: an industry-standard specification format provides clarity and saves time. In our fast-changing world, it can be a challenge to create specifications and keep them current. Partnering with a professional vendor who can help you ensure specificity can help eliminate

REWORK

52% of rework is caused by poor project data and miscommunication.¹

SCOPE CREEP

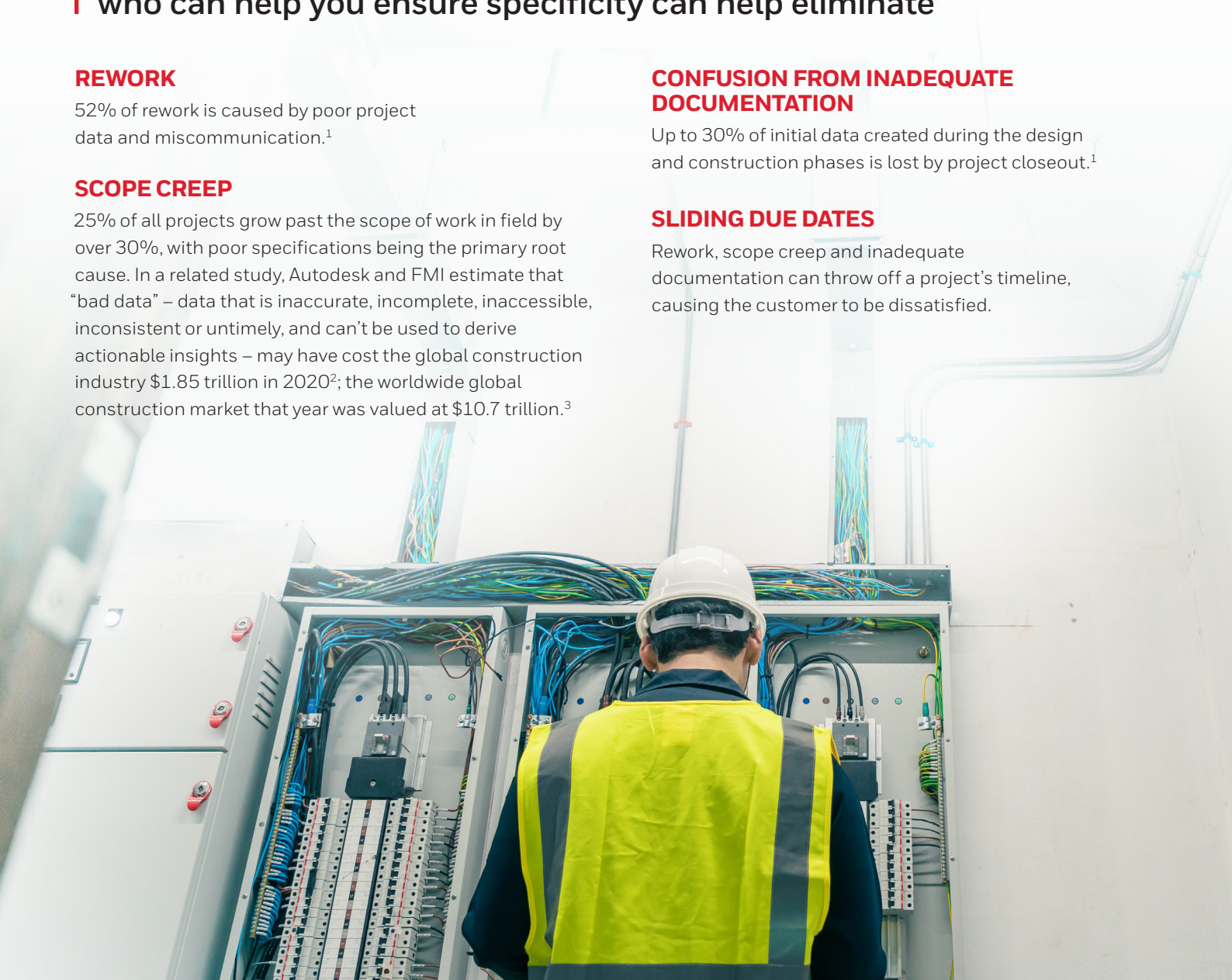
25% of all projects grow past the scope of work in field by over 30%, with poor specifications being the primary root cause. In a related study, Autodesk and FMI estimate that "bad data" – data that is inaccurate, incomplete, inaccessible, inconsistent or untimely, and can't be used to derive actionable insights – may have cost the global construction industry \$1.85 trillion in 2020²; the worldwide global construction market that year was valued at \$10.7 trillion.³

CONFUSION FROM INADEQUATE DOCUMENTATION

Up to 30% of initial data created during the design and construction phases is lost by project closeout.¹

SLIDING DUE DATES

Rework, scope creep and inadequate documentation can throw off a project's timeline, causing the customer to be dissatisfied.



HONEYWELL SUPPORTS SPECIFICATION DEVELOPMENT

Honeywell can help you with the terminology used to specify smart building technologies to better achieve end user objectives while moving your projects along more efficiently and effectively. This allows you to spend less time drafting specifications while also reducing the risk of costly errors and keeping customers happy.

To further clarify project scope, we offer everything from data sheets and CAD files to document library access and product guide specifications to ensure a greater degree of accuracy.

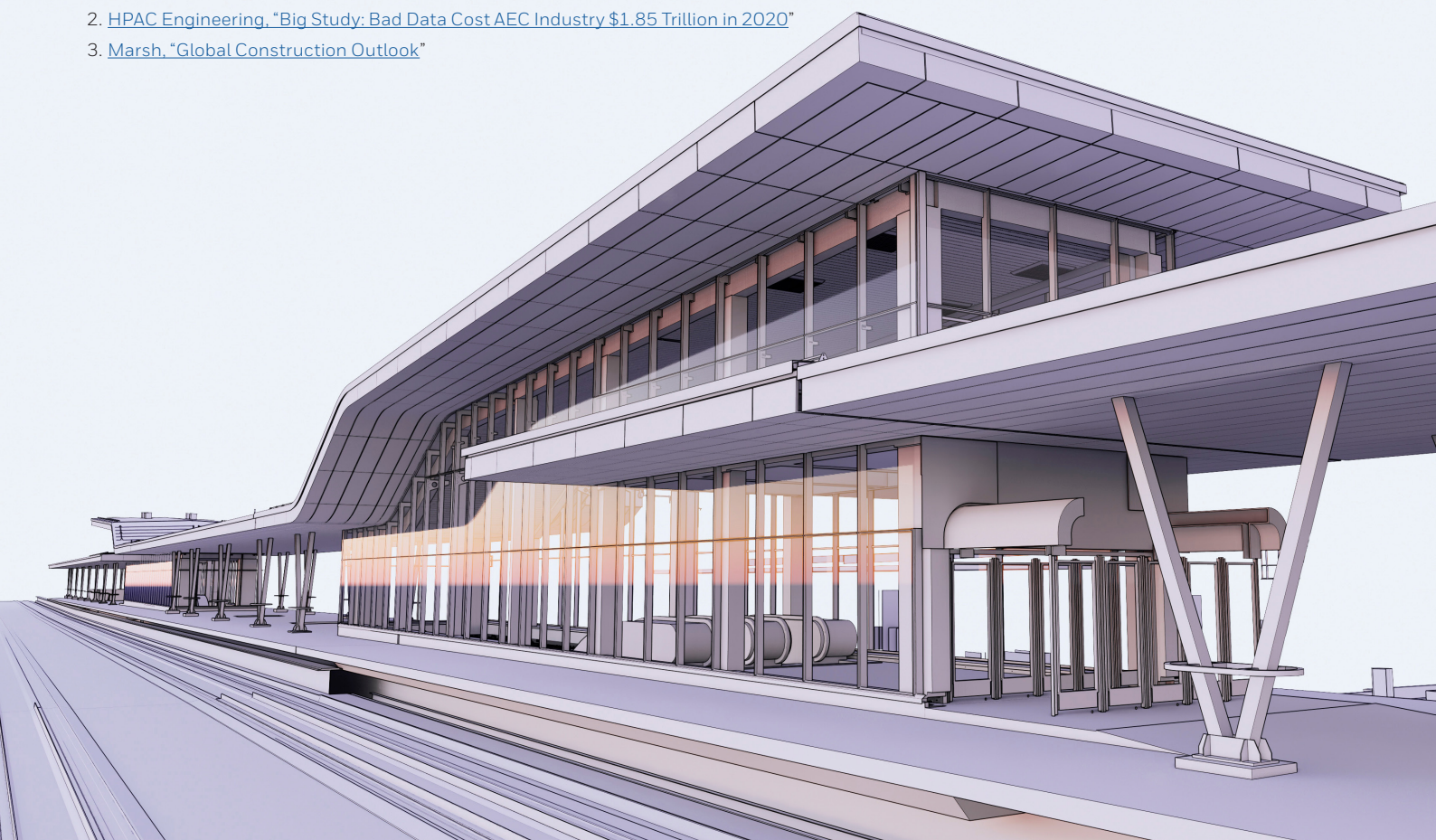
In addition we can provide you with integration specifications across any building control systems – including HVAC, fire security, and others – by drawing from our synergistic portfolio of experience in energy management, occupant comfort, security, electrical system frameworks, and life and building safety controls. We also can access specific vertical specifications for distinct types of buildings and industries, such as premium commercial and healthcare facilities, airports, and sustainable and smart city buildings. Specificity at this level is a strong element in providing superior customer service and satisfaction for your client's building type, ranging from staff efficiency and well-being to guest comfort to protection and effectiveness of investment assets for service contracts that can run up to 35 years.

- Honeywell specifications are compliant with CSI (Construction Specifications Institute) MasterFormat® – the AEC industry's widely accepted and utilized standard for organizing and communicating specifications.
- Honeywell offers broad market expertise for AEC specifications in the following areas:
 - Energy and Comfort Solutions (Div. 23 HVAC)
 - Integrated Sustainability & Occupant Experience (Div. 25 Integrated Automation)
 - Security Solutions (Div. 27 Communications)
 - Life and Asset Safety Solutions (Div. 28 Electronic Safety and Security)
 - Cybersecurity

CSI MASTERFORMAT UNIFIES YOUR PROJECTS UNDER A COMMON STANDARD

CSI MasterFormat is the most widely used standard for organizing specifications for building projects in the U.S. and Canada, and which in some cases has been adopted by other geographies as well. It helps specifiers organize information into distinct groups and subgroups. Yet, it drills down even further: Each subgroup is made up of "divisions" – such as Electrical, Mechanical, and HVAC – that guide organization of a facility's construction requirements and associated activities.

1. [Grace Ellis, "100+ Construction Statistics," Digital Builder, April 18, 2021](#), (accessed August 9, 2021).
2. [HPAC Engineering, "Big Study: Bad Data Cost AEC Industry \\$1.85 Trillion in 2020"](#)
3. [Marsh, "Global Construction Outlook"](#)



SMART BUILDINGS OF THE FUTURE REQUIRE THE SOLUTIONS AND EXPERTISE WE OFFER

TECHNOLOGY SOLUTIONS FOR DIVISION 25: INTEGRATED AUTOMATION

Division 25 is where the integration of systems is documented and additional features, outcomes and benefits of these integrations are outlined. While it has been an element of CSI MasterFormat for some time, the advent of smart buildings has broadened the need for multiple building control systems and devices to communicate with each other. It has also highlighted the importance of working with a Master System Integrator (MSI) like Honeywell, where it's just one of the services we offer our customers.

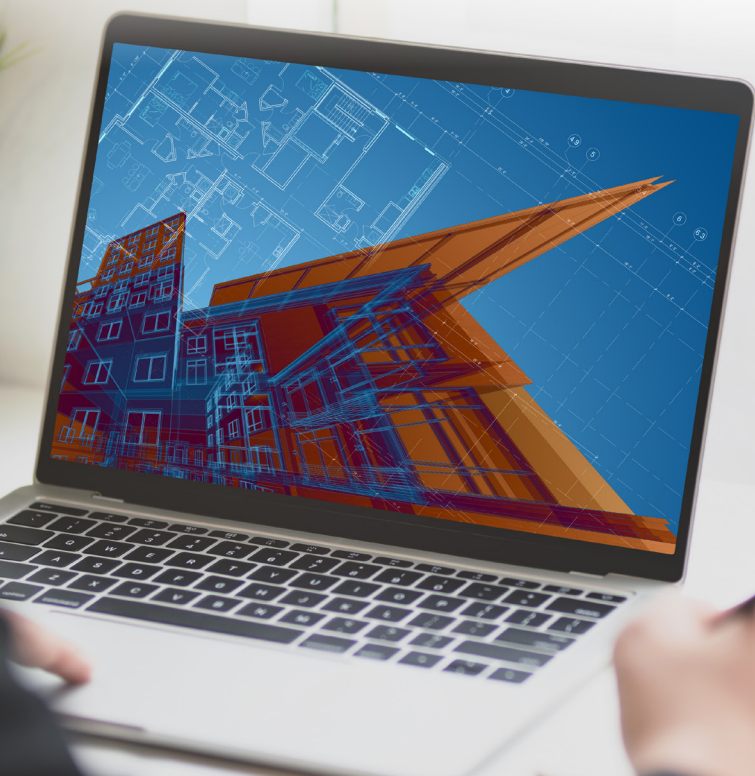
A MSI enables all of a building's technical systems – and all of their sub-elements and affiliated segments – to work together throughout the lifespan of a building, campus, or enterprise. These often can be displayed in one supervisor. More advances MSIs can also advise on or offer aftermarket services for these systems too that can run the lifespan of a building

For example, for clients who want a technologically advanced building, we can automatically help increase the efficiency of both office staff and facilities maintenance. When they scan their badges – which grant them access into the building – the smart building can adjust their office temperatures to their preferences and then return the temperature to a more cost-efficient level when occupants are not detected, all without impacting the building occupants' comfort. Doing the same with lighting also adds to productivity and helps keep building costs under control.

RESOURCES YOU NEED FOR BUILDING INFORMATION MODELING (BIM)

BIM is used by many people involved with a building project, including but not limited to building owners or investors, architects, consultants, interior designers, and general contractors as well as on-site management including engineering, facility management, and IT. BIM can be used from the time the building's designer is just getting started through construction and decades after it opens. It helps future-proof the building's operations, planning for its sustainability and linkage by using digital twin models, enabling efficiencies such as a maintenance team's ability to identify and then order replacement part numbers within outlined warranty time windows. Smart Buildings are not a "fit and forget" project and should be continuously updated to be kept current to operate as efficiently, safely, and comfortably as possible.

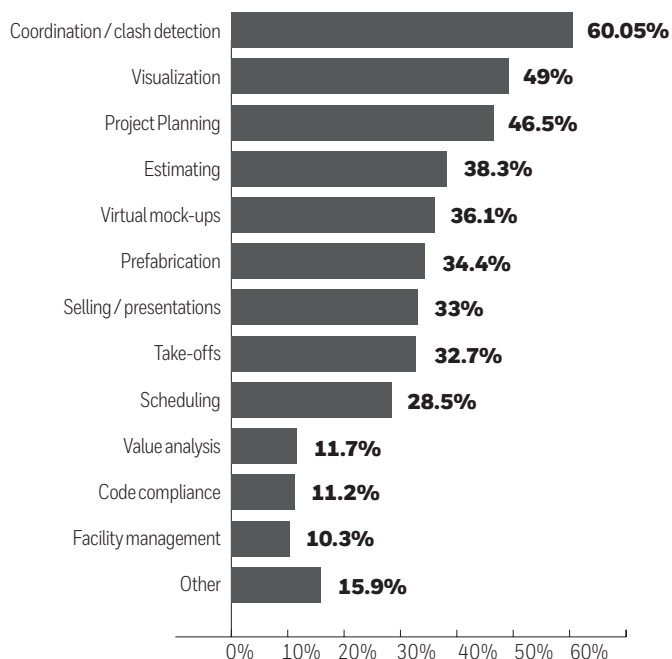
Think of the BIM model as a hybrid of a data sheet, a 3D CAD model and more. This cost-saving benefit can save roughly 0.7%–3% across a construction project in cost, time, and resources. One example of a benefit of using BIM files in a model is that it can notify the user of clash detections: each clash it detects on a construction job can help save \$1,500 on average. Data from the American Institute of Architects and Association of General Contractors confirms that clash detection is important in controlling costs in the design and construction process. Since construction projects typically take 20% longer to complete than originally scheduled, employee wages, equipment rentals, and other time-related costs then also end up being 20% higher, and with rework accounting for as much as 34% of total project costs (according to a 2018 study) BIM can lead to considerable savings. And while thankfully not all clashes result in injury, according to the National Safety Council, workplace injuries cost \$41,000 per incident on average, including workers' compensation, insurance payouts, lost time, and other accident-related expenses.



82%

OF BIM USERS
REPORT A POSITIVE
RETURN-ON-INVESTMENT⁴

Top use cases for BIM



INVOLVE US EARLY FOR YOUR BIGGEST BENEFITS

To gain the most from our smart-building experience and expertise, bring us into your project early in the design phase. We can take many approaches to providing our expert assistance – one of our clients' preferred options is for us act as a smart-building advisor to help guide you through the specification-development process. We apply in-house expertise, backed by decades of experience, to help you focus on targeted outcomes for specific verticals and end users. This can include us taking an MSI approach: installing multiple systems from various MasterSpec divisions and then integrating those to meet building-function objectives. As your single point of contact with multiple proven solutions, when we partner with you on specification creation you get custom project specs that help ensure thorough conformation to your client's requirements.

INVEST IN A TECHNOLOGICALLY ADVANCED MASTER SYSTEM INTEGRATOR TO BRING IT ALL TOGETHER

As building technology continues to evolve, industry data show the benefits of working with a technologically advanced MSI. The advent of 5G technology, for example, can help construction sites that don't yet have an existing network infrastructure. Previous network speeds could not handle large BIM files but with 5G, architects and others can search online for a specific BIM file, download it, add it to their model, and then provide a 3D visual or VR (virtual reality) tour for the client. We can ensure that you're ready to take advantage of advances like this as soon as the underlying technologies are in place.⁵

Collaborating with a technologically advanced MSI like Honeywell, then, helps bridge any gaps in your own expertise and mitigates interface risks between technologies that may be supplied by multiple vendors. Today's projects are confirming the decision of many architects, consultants, and other experts in the AEC industry to engage strategic partners to help reduce risks and keep them competitive. Here's how that can work for you.

- Address increasing project risks.
- Honeywell Solution: We can help you at the project level by bringing expertise to bear in all of these enterprise-level areas:
 - Industry experience across multiple building control platforms
 - Financial and legal backing when needed
 - Strategic sourcing from our industry-wide partners
 - Software and documentation to meet any regulatory requirements
 - Cybersecurity tested at the highest industry standards, including military, aerospace, and banking
- 35% of construction professionals' time is spent on non-productive activities including looking for project information, conflict resolution and dealing with mistakes and rework.
 - Honeywell Solution: With our involvement from the beginning, this problem is greatly reduced as we've partnered with you from the start to create specs that meet your exact requirements.

4. [Grace Ellis, "100+ Construction Statistics," Digital Builder, April 18, 2021.](#) (accessed August 9, 2021)

5. [Black & McDonald "The 5G revolution is coming, but are commercial construction companies ready?"](#)

ABOUT HONEYWELL BUILDING TECHNOLOGIES GET IN TOUCH WITH US TODAY

Buildings affect people every moment of every day. And at Honeywell Building Technologies, we're transforming the way every building operates, because better buildings make our lives better. Over 23,000 HBT global employees support buildings of every type, from commercial offices, stores and schools to hospitals, airports and arenas. Our diverse technologies and brands enable us to create holistic solutions, improving virtually every aspect of your building's environment and experience in almost any industry.

HOW TO GET ASSISTANCE WITH SPECIFICATION CREATION

Contact your sales representative during the design phase of a new project, to request specification files that you need for any Honeywell Building Solutions products.

Honeywell Building Technologies

715 Peachtree St NE
Atlanta, Georgia 30308
buildings.honeywell.com

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THE
FUTURE
IS
WHAT
WE
MAKE IT

Honeywell