



# CORNERSTONE™ REPORT



## CSR009 – STANDARDS

*This report is intended to review the current state of standards in the 3D Imaging industry based on responses and opinions from stakeholders within the building documentation industry.*

# TABLE OF CONTENTS

## Table of Contents

|   |    |
|---|----|
| Introduction _____  | 1  |
| presidents message _____  | 1  |
| Forward _____   | 2  |
| interpretation of data _____  | 3  |
| 1. Based on the respondents, who's invested in understanding standards? _____   | 3  |
| 2. Does a prevalent standard exist for building documentation? _____  | 3  |
| 3. Do you have your own standards for how you deliver your building documentation deliverables you use for all your projects? _____ | 4  |
| 4. If you current use a standard, how was it established? _____   | 4  |
| 5. How have standards impacted your organization? _____   | 5  |
| 6. Which industry do you believe is the most developed in terms of standardization? _____   | 5  |
| 7. Who do we think has the most influence in IMPLEMENTING standards? _____  | 6  |
| 8. The impact of USIBD's release of standards documents _____   | 6  |
| Information regarding poll participants _____   | 8  |
| Industry Type _____   | 8  |
| Company Size _____  | 8  |
| Regions represented _____   | 9  |
| Position within Company _____   | 9  |
| Contact Information _____   | 10 |

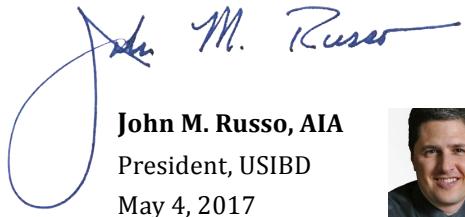
# INTRODUCTION

## Introduction

### PRESIDENTS MESSAGE

I am pleased to present to you the ninth issue of the USIBD's Cornerstone Report. This issue of the Cornerstone Report is our second report on Standards in the Building Documentation industry. In particular, this issue looks at the adoption of Standards in the industry. It has been a couple of years since we last looked at Standards, so we are in a unique position to see how the industry is developing. We offer a comparison between our 2017 survey responses and those we received in 2015. Are stakeholders aware of standards? Do they use industry standards or establish their own? How are Standards being established? These are just a few of the questions this report will help answer.

We hope you will continue to participate in future Cornerstone Report Surveys and invite your friends and colleagues to participate as well. On behalf of the USIBD's Board of Directors and the Technology Committee, we hope you will enjoy this issue of the USIBD's Cornerstone Report.



**John M. Russo**  
John M. Russo, AIA  
President, USIBD  
May 4, 2017



# FORWARD

## Forward

We have chosen the term **Cornerstone** to name the report after for its symbolic importance in the creation of a building.

The **cornerstone** (or **foundation stone**) concept is derived from the first stone set in the construction of a masonry foundation, important since all other stones will be set in reference to this stone, thus determining the position of the entire structure.

Over time a cornerstone became a ceremonial masonry stone, or replica, set in a prominent location on the outside of a building, with an inscription on the stone indicating the construction dates of the building and the names of architect, builder and other significant individuals. The rite of laying a cornerstone is an important cultural component of eastern architecture and metaphorically in sacred architecture generally.

Much like the way a building cornerstone serves as a reference for determining the position of the entire structure, the **Cornerstone Report** will serve as a reference for those in the building documentation industry to help identify where the industry is positioned and where it is heading.

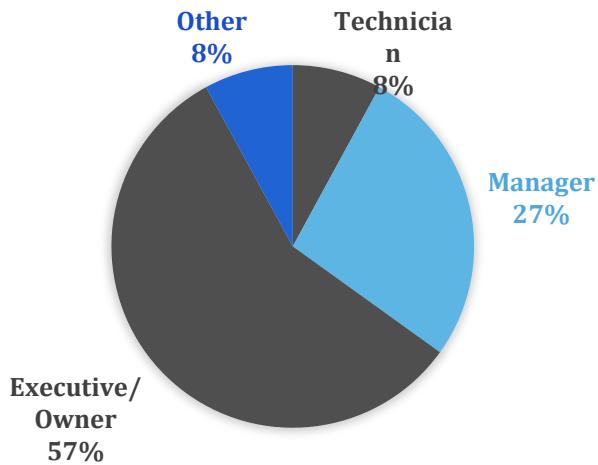
The Cornerstone Report will be a quarterly review of select aspects of the building documentation industry based on responses and opinions from service providers and consumers. The information and analysis presented in these reports is derived from data we gather through industry surveys that are open to all stakeholder groups to participate in.

It is our desire to provide unbiased information, on relevant topics of interest to the building documentation community. As such, we welcome your feedback on what you would like to see in future issues of the Cornerstone Report. From all of us at the USIBD we hope you will enjoy this issue of the Cornerstone Report.

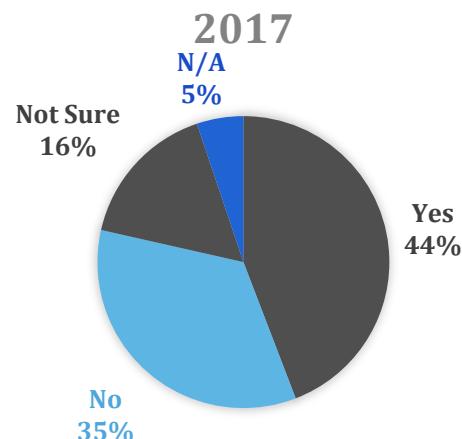
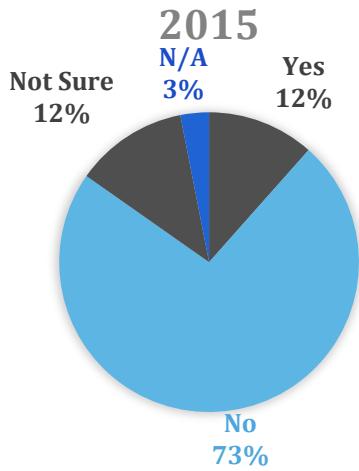
# INTERPRETATION OF DATA

## Interpretation of Data

1. BASED ON THE RESPONDENTS, WHO'S INVESTED IN UNDERSTANDING STANDARDS?



2. DOES A PREVLENT STANDARD EXIST FOR BUILDING DOCUMENTATION?



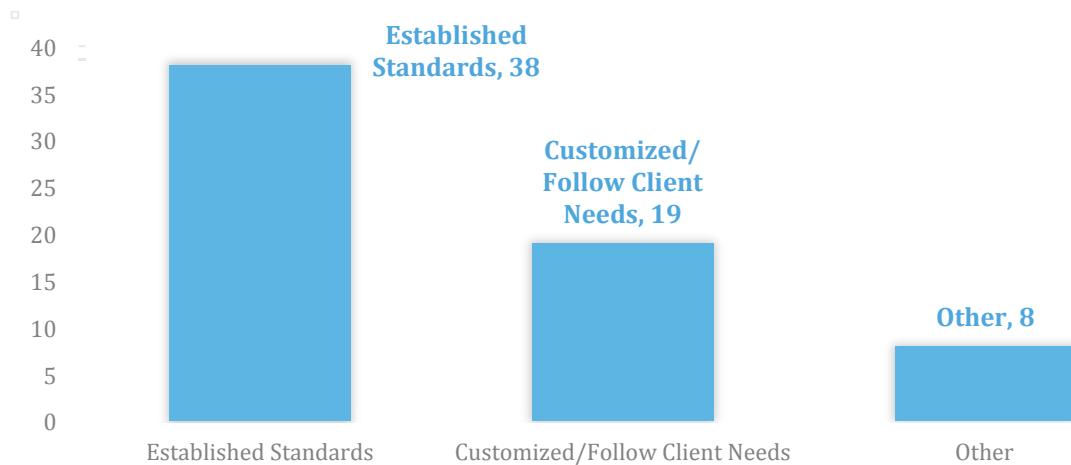
There has been a large shift in awareness of standards in the industry between 2015 and 2017.

When surveyed on this same subject in 2015, the clear majority of respondents (73%) did not believe there was a well-known standard. The USIBD Standards has since released its [Level of](#)

# INTERPRETATION OF DATA

[Accuracy \(LOA\) specification](#), which may have played a significant role in increasing this awareness. Certainly awareness and perception of documentation standards are trending in the right direction. However, 35% of respondents contest the existence of a prevalent standard. Indicating there is still plenty of room for improvement. Two possible considerations for these results are: lack of awareness of availability, or a disbelief in any single standard being considered widely-used.

## 3. DO YOU HAVE YOUR OWN STANDARDS FOR HOW YOU DELIVER YOUR BUILDING DOCUMENTATION DELIVERABLES FOR YOUR PROJECTS?

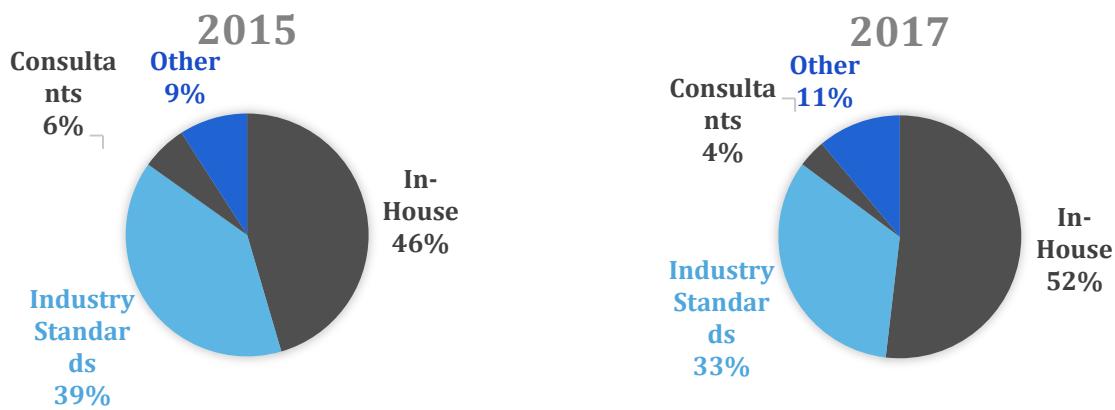


Although many indicated providing both standard and customized deliverables, most respondents indicate use of established standards to determine how building documentation is performed what deliverables are provided on their projects.

An intriguing contrast from a few years ago when 73% of respondents said they did not follow an industry standard. One contributing factor to this change may be the market growth of the last few years. Some organizations find the consistency gained through adopting standards can ease the pains of scaling to meet increasing demands.

## 4. IF YOU CURRENTLY USE A STANDARD, HOW WAS IT ESTABLISHED?

# INTERPRETATION OF DATA



The majority of standards of delivery have been developed in-house, rather than adopted from known industry standards. This is an increase of 6% from 2 years ago. As service provider competition increases, perhaps some firms are highlighting in-house development as a differentiator. These results may also be influenced by the duration the respondents have been in business. Almost 56% have been in operation for over 20 years. Prior to recent publications firms had little choice but to develop their own guidelines.

Regardless of increased use, hiring of outside consultants to develop their in-house specifications is still relatively rare.

## 5. HOW HAVE STANDARDS IMPACTED YOUR ORGANIZATION?

Although most respondents (almost 86%) indicate that standards have a positive impact on their organization, over 76% indicate a better defined standard for building documentation would further elevate that impact. This seems to suggest standards are serving their purpose but perhaps there is room for improvement.

## 6. WHICH INDUSTRY DO YOU BELIEVE IS THE MOST DEVELOPED IN TERMS OF STANDARDIZATION?

The top results are Engineer (28.5%) and Surveyor (19%). It is not surprising that these two groups tend to have the most standardization, because of the risk-based nature of the work performed.

# INTERPRETATION OF DATA

What's interesting is the groups within the AEC space with the most influence are NOT the ones developing the standards. The current drive for development of standards seems to be based on mitigating risk rather than specifying an outcome.

## 7. WHO DO WE THINK HAS THE MOST INFLUENCE IN IMPLEMENTING STANDARDS?

Asset Owner/Operators are in the lead (46%), with Architects second (20.6%).

A revised version of the golden rule states “whoever has the gold, makes the rules”. It should be no surprise that Owners continue to be seen as the most influential when implementing standards. They are the group who pays for, but also ultimately will benefit from, building documentation. Many facility owners who choose to thoroughly document as construction progresses are seeing the value in planning and maintenance.

Architects also play a strong role in the decision making process for implementing standards because they are often found in positions where they can help write the contract specifications for a project during the preconstruction phase. Many architects are members of the Construction Specifications Institute (CSI) to facilitate this process.

Other groups seem to have little influence. Contractors (10%) are often tasked with implementing the standards after winning the project, and specifications have already been written. To implement a new standard – such as specification revisions to allow alternative documentation to be used in place of traditional red-line as-built drawings – a change order would be required.

## 8. THE IMPACT OF USIBD'S RELEASE OF STANDARDS DOCUMENTS

Are you aware of the release of the USIBD's series of Standards Documents?

| Answer         | 0% | 100% | Number of Response(s) | Response Ratio |
|----------------|----|------|-----------------------|----------------|
| Yes            |    |      | 47                    | 74.6 %         |
| No             |    |      | 15                    | 23.8 %         |
| No Response(s) |    |      | 1                     | 1.5 %          |
| Totals         |    |      | 63                    | 100%           |

# INTERPRETATION OF DATA

Have you reviewed any of the following USIBD documents? (Choose all that apply.)

| Answer          | 0% | 100%      | Number of Response(s) | Response Ratio |
|-----------------|----|-----------|-----------------------|----------------|
| RFQ             |    |           | 29                    | 61.7 %         |
| RFP             |    |           | 27                    | 57.4 %         |
| 3D Imaging Spec |    |           | 28                    | 59.5 %         |
| LOA             |    |           | 38                    | 80.8 %         |
| <b>Totals</b>   |    | <b>47</b> | <b>100%</b>           |                |

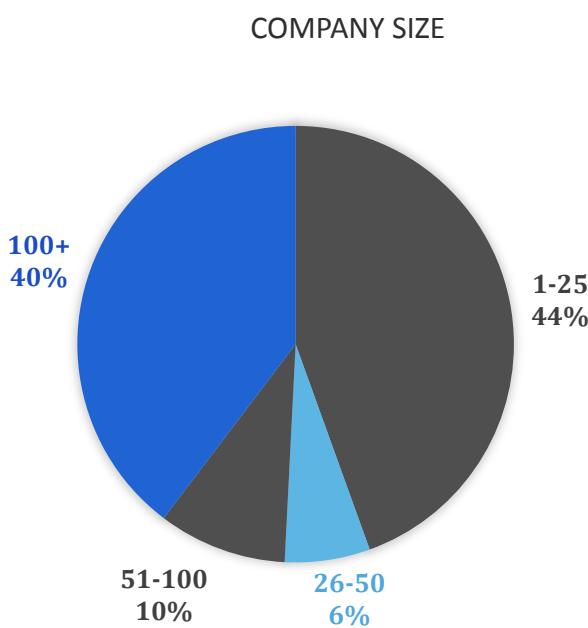
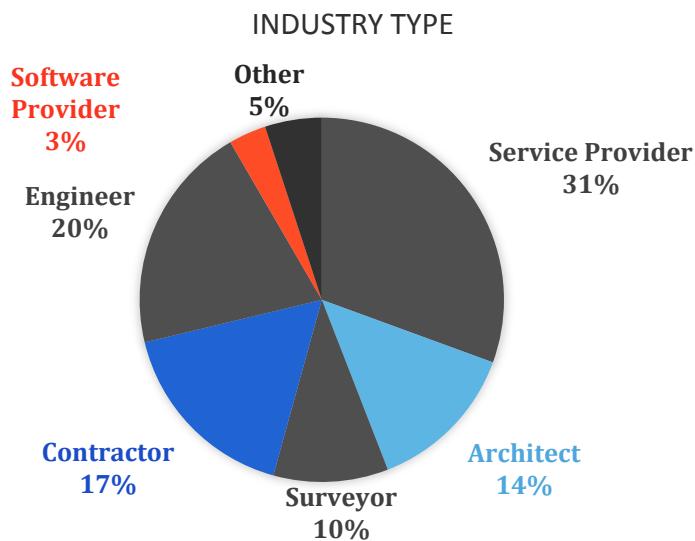
If you have reviewed, do you plan on using any of the following USIBD documents? (Choose all that apply.)

| Answer          | 0% | 100%      | Number of Response(s) | Response Ratio |
|-----------------|----|-----------|-----------------------|----------------|
| RFP             |    |           | 18                    | 39.1 %         |
| RFQ             |    |           | 13                    | 28.2 %         |
| 3D Imaging Spec |    |           | 20                    | 43.4 %         |
| LOA             |    |           | 30                    | 65.2 %         |
| <b>Totals</b>   |    | <b>46</b> | <b>100%</b>           |                |

The Level of Accuracy has attracted the greatest amount of interest among all of the documents released by the USIBD so far. Many compare the “Level of Accuracy (LOA)” as similar to the “Level of Development (LOD)” standard established by the AIA and AGC’s BIM Forum, and adopted by the buildingSMART Alliance.

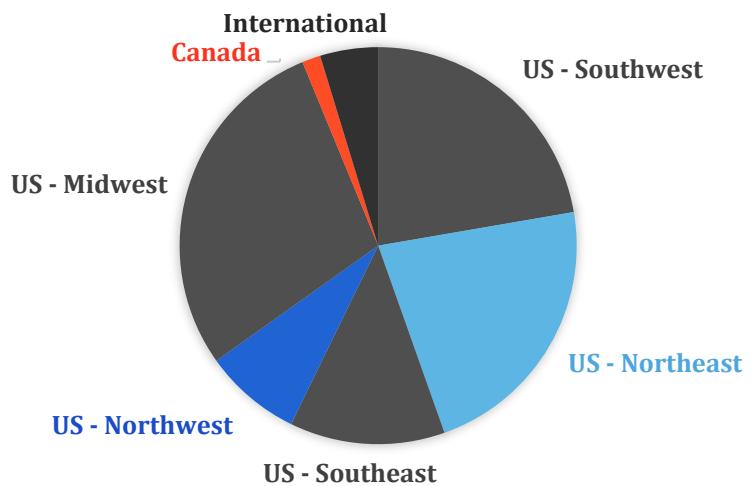
# INFORMATION REGARDING POLL PARTICIPANTS

Information regarding poll participants

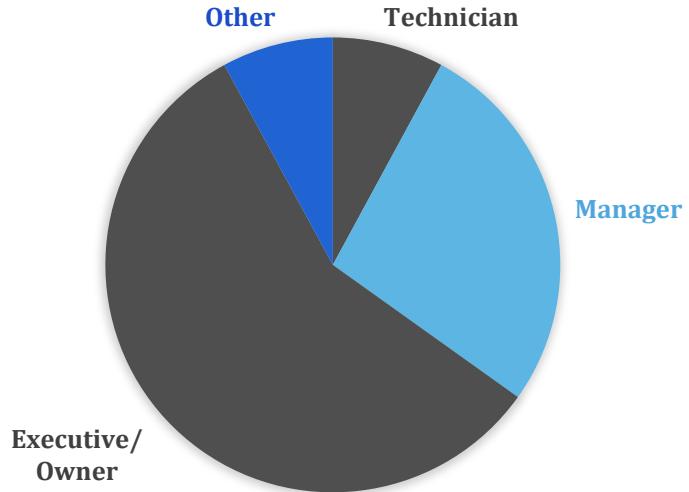


# INFORMATION REGARDING POLL PARTICIPANTS

REGIONS REPRESENTED



POSITION WITHIN COMPANY



# CONTACT INFORMATION

## Contact Information

JOHN RUSSO, AIA  
PRESIDENT



[john.russo@usibd.org](mailto:john.russo@usibd.org)

PHILIP LORENZO  
TECHNOLOGY CHAIR



[philip@rithm.io](mailto:philip@rithm.io)

JOSHUA DESTEFANO  
TECHNOLOGY VICE-CHAIR



[joshd@dpr.com](mailto:joshd@dpr.com)

### U.S. Institute of Building Documentation

18025 Sky Park Circle, Suite L  
Irvine, CA 92614

[@usibd](http://www.usibd.org)

#usibd #buildingdocumentation #bim #bldgdocs #realitycapture #existingconditions #builtenvironment #loalod



**USIBD**<sup>TM</sup>  
U.S. Institute of  
BUILDING DOCUMENTATION