

# National BIM Survey 2016 | Chile

## Summary Report

### Introduction

This document summarizes the main results of the 2016 National BIM Survey, the most comprehensive analysis of the use of Building Information Modeling (BIM) within the Chilean AECO sector. This study was conducted by researchers at the University of Chile with the collaboration of all main Chilean professional associations.

### Key Findings

- Over half (53%) of all respondents are BIM users.
- Autodesk Revit® is the dominant software tool on the market, with 76% of users and 47% of exclusive users.
- BIM is used in all types of projects, with small buildings (<2,500 sq. ft.) most frequently (51%).
- BIM is mainly used for visualization during the design process and for the production of construction documents.
- Construction-phase BIM capabilities (scheduling, cost estimation, construction monitoring) are almost never used.
- Most users (36%) first draw their projects using traditional CAD tools then build a BIM model.
- Economic benefits (perceived ROI) increase proportionally with the level of use of BIM.
- The satisfaction level with BIM is 7.4 on a scale of 1-10.
- About a third (31%) of non-users know nothing about BIM.
- The majority of users (68%) said that their use of BIM within the next 12 months will be higher or much higher than today.

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Santiago, June 2016.

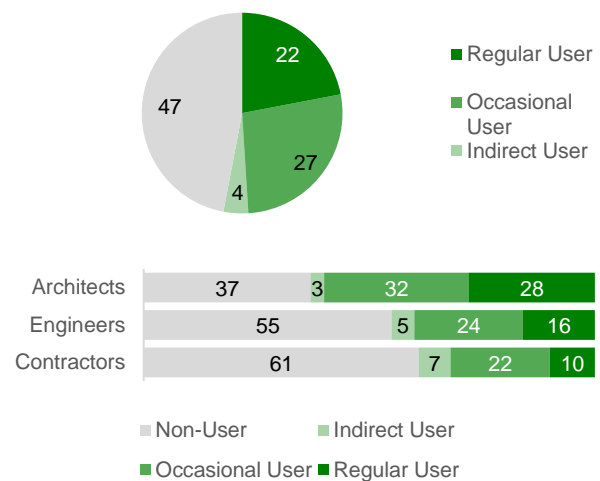
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### BIM Adoption

Over half (53%) of the total respondents are BIM users: 22% of the total are *regular users* (have used BIM on several or most of their projects in the last 12 months), 27% of the total are *occasional users* (have used BIM only on a few of projects), and 4% are *indirect users* (have only used BIM through outsourced BIM modeling services).

Architects comprise the highest proportion of regular users (28%), while builders make up the largest number of indirect users (7%). Among engineers, while 57% of structural engineers are BIM users, only 39% of MEP engineers use BIM.

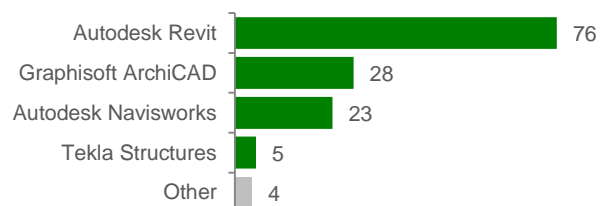
BIM Adoption



### BIM Software

Autodesk Revit® is dominant on the market: it is used by 76% of users, across all disciplines. In fact, 47% of all users are exclusive users of Revit, and use no other BIM software. Navisworks® is used mostly by BIM modeling services companies. Bentley® and Nemetschek® have less than 4% of users.

BIM Software

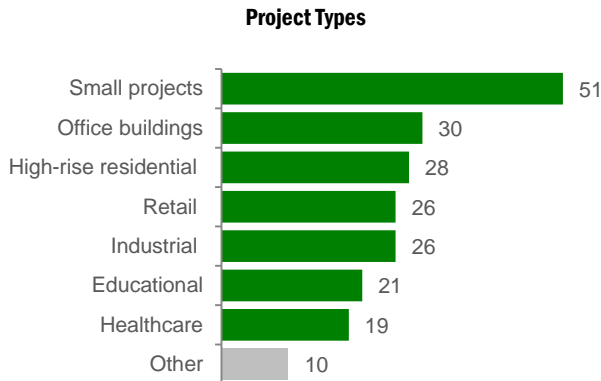


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### Project Types

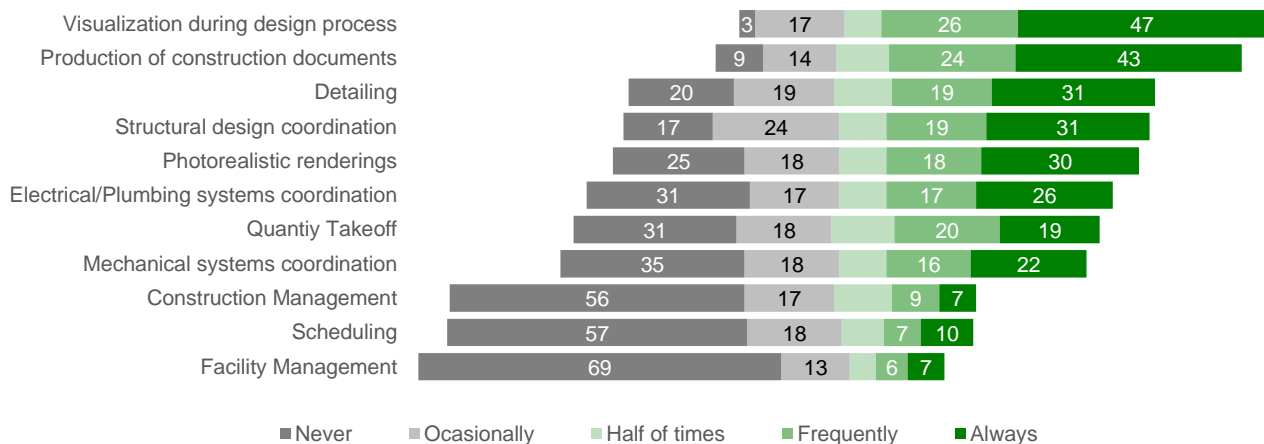
BIM is used in all types of projects. Among regular and occasional users, the most frequent project is small buildings (<2,500 sq. ft.). Indirect users outsource BIM modeling services primarily for high-rise residential buildings (61%), office buildings (56%), and for healthcare buildings (56%).



### BIM Capabilities

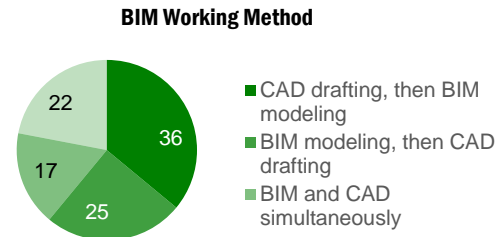
BIM is mainly used for visualization during the design process and production of construction drawings. Clash detection functionalities are more frequent with structural design than with MEP systems. Structural engineers use BIM for detailing more than other disciplines do. Construction-phase capabilities (scheduling, cost estimation, construction monitoring) are the least used, even among builders and construction managers

### BIM Capabilities



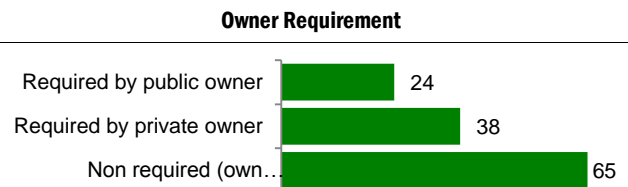
### BIM Workflow

Most users (36%) first draw their projects using traditional CAD tools then build a BIM model. This proportion grows among occasional users (53%) and MEP specialists (71%). In contrast, among regular users the preferred method is modeling directly in BIM (35%).



### Owner Requirement

For all types of users, the main motivation for using BIM is self-initiative (65%). BIM was required by a private owner in 38% of all cases, and by a public owner in 24% of all cases. The BIM requirement in public projects is more influential on engineers and less on architects.



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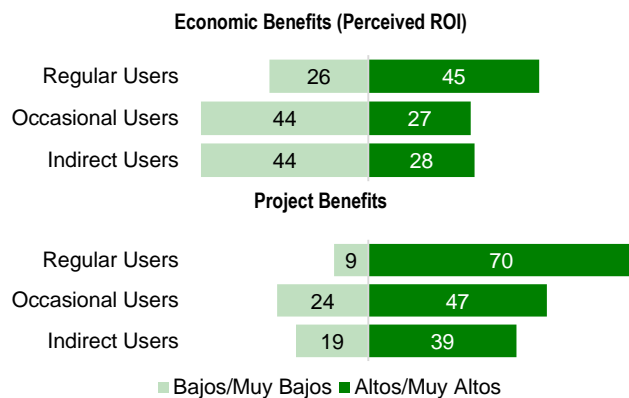
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### Benefits and ROI

Reduced errors in construction documents and improved overall project are the main benefits transversely perceived by all users. Project benefits (such as reduced construction time or reduced on-site conflicts) increase proportionally with the level of use (regular users 70%, occasional 47%, indirect 39%).

Economic benefits and perceived ROI are higher among regular users (45% report high or very high ROI) than among occasional and indirect users (27% and 28%, respectively).

#### Benefits and ROI

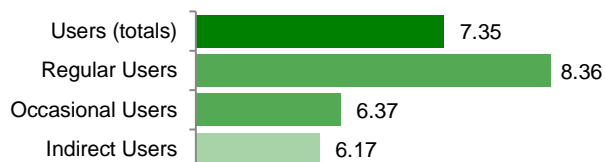


### Satisfaction Levels

The general level of satisfaction with BIM is 7.4 on a scale of 1 to 10. However, a breakdown by type of user evidenced strong differences between regular users (8.4), occasional users (6.4), and indirect users (6.2).

Among disciplines, architects are the most satisfied group (7.5), followed by structural engineers (7.0) and builders/contractors (6.8). MEP engineers are the least satisfied (6.2).

#### Satisfaction Levels

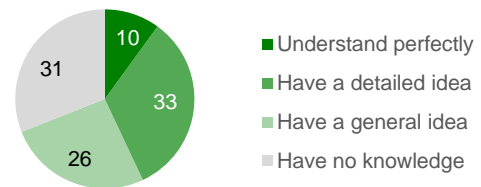


### Non-Users

About a third (31%) of non-users knows nothing about BIM, and about a fourth (26%) has only a general idea of the technology. A breakdown by discipline reveals that while only 16% of non-user architects know nothing about BIM, 57% of non-user engineers are unaware of the technology.

Among non-users, the most frequent reasons for not using BIM are lack of proper training (42%) and the high cost of implementation (41%).

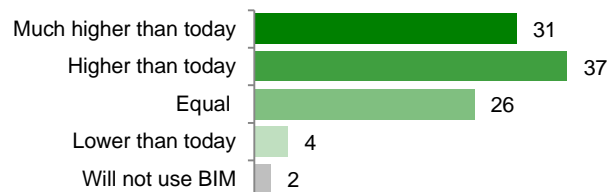
#### Non-Users: Knowledge about BIM



### Perception of Future Use

Among users, the majority (68%) said that their use of BIM in the next 12 months will be higher or much higher than today. Among builders/contractors, about three quarters (74%) said it will be higher or much higher than today.

#### Perception of Future Use



### Methodology

The research in this report was conducted through an online survey of AECO professionals between April 14<sup>th</sup> and May 6<sup>th</sup> 2016. The sample was drawn from the databases of the collaborating professional associations (CA, CI, CCIC, CCHC, AOA, AICE, CDT). The survey had 1,338 complete responses from 32 cities, distributed as follows: architects 45%, contractors 26%, engineers 21%, others 8%. The sample size benchmarks at a 95% confidence level with a margin of error of less than 3%.