



Home Building Industry Innovations BIM and VR

What is BIM...



- **2D hand drafting.** Historically we started from a point of **documentation**. Hand drafting all buildings to convey our ideas and construction methods.
- **2D CAD drafting.** This next stage was a great leap in **optimization**. Changes were easier and files could be reproduced and shared digitally.
- **3D models.** Became an efficient way of **communication**. New ways to solve problems by creating prototypes.
- **BIM** is now about the connectivity of the process. Extend the workflows and **collaboration** with all stakeholders. Taking all of the information that we can from a model and using it however we can to automate the building industry.

What are the benefits of BIM?...

Presentation: Produce informative 3D images and VR experiences. Engage the client with stunning visuals and realistic experiences. Reduce the concept stage.

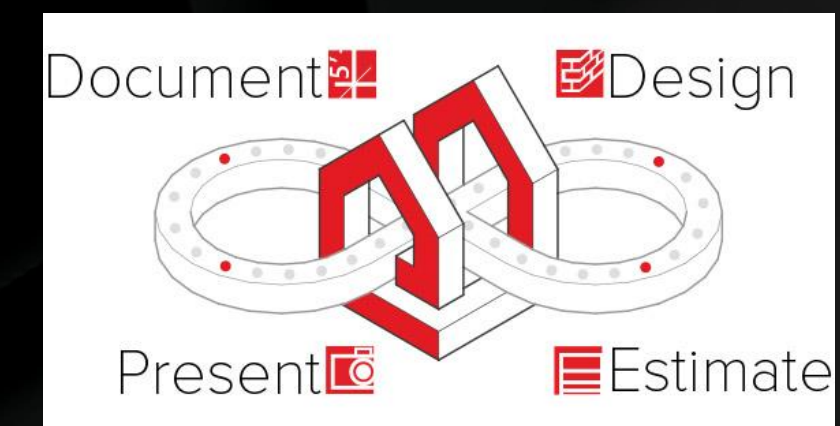
Communication: Reduce the amount of errors and “surprises” on site by sharing the 3D model with all trades. Graphical languages everyone can understand.

Accuracy: The model holds information related to cost, sku #s, size, phase and usage for itemized reports sent directly to accounting software.

Automation: Automatically produce the elevations, sections, floor plans and details required for permit purposes and submit them digitally.

Integration: The data from the BIM model flows to value added engineering, cabinet design and POS packages: MiTek trusses, Weyerhaeuser joists, CSD, Simpson, 2020 Spaces, POS systems etc.

Analysis: The intelligent model integrates with energy analysis software ResCheck for US government approved energy efficiency standards for value added services to contractors.



Demonstration...

- BIM in action



Why Automate?

...When everyone works together effectively from the earliest phases of design, the results in the end are pretty incredible:

Reduced overall costs and time through better communication, the **elimination of duplication of efforts**, and most importantly, **better quality custom renovations and new homes.**

Sales/Marketing

Engage customer early and often

Décor Centre

Better decisions leads to increased sales value

Quotes

Instant quotes linking to POS systems

Permit Drawings

Fast and accurate document production

Engineering

Direct data integration for better & faster analysis

Control Systems P/L

Seamless link to POS for accounting controls

Framing and Manufacturing

Accurate BOM shipped for field framing or factories

Suppliers' Catalogs

Custom catalogs with sku's linked to website and pricing

Finished Home

Easy 3D BIM for homeowner to renovate or for maintenance



The Power of VR

The home building industry needs technology to help professionals and consumers visualize concepts better while making changes on the fly and making decor selections.

We need better ways of engaging and educating the homeowner in the purchasing process early to improve opportunities to initialize a strong business relationship.



How do we deliver?

GOOGLE CARDBOARD

SAMSUNG GEAR VR

OCULUS RIFT

HTC VIVE

VRSTUDIOS



Google Cardboard

PROS:

- Cheapest Option
- Great Take-away
- Promotes “Sharing”
- Good Image Quality



CONS:

- Not “Immersive”
- Lack of Navigation
- No direct link to model.
- Not durable

Samsung Gear VR

PROS:

- The most popular option with 2.5 million units sold
- Good Onsite Option
- Good Image Quality
- More durable than cardboard



CONS:

- Not “Immersive”
- Lack of Navigation
- No direct link to model.

Oculus Rift and HTC Vive...

PROS:

- Immersive
- Good Navigation
- Good Image Quality
- More durable than cardboard



CONS:

- More expensive hardware
- Needs computer power
- Wired environment, best to stay seated



VRstudios

PROS:

- Superior Immersive Environment
- Great Navigation
- Great Image Quality
- Untethered
- Multi person



CONS:

- Most expensive hardware
- Needs computer power



2015 VIRTUAL REALITY CONSUMER REPORT

INSIGHTS PROVIDED BY

GREENLIGHTVR

TOUCHSTONE RESEARCH
INNOVATION & EXCELLENCE

DESIGNED BY

CUBICLE NINJAS

VR EXPERIENCE

= INSTANT SOCIAL IMPACT

When it comes to a
viscerally engaging
VR experience,
**SEEING IS
BELIEVING.**

Of those that have tried
the technology...

81%

will tell their
friends

79%
seek to
try it again

Of those that use VR, the most
frequently used word is...

COOL!

79%

GENERATION Z
IS THE MOST
PASSIONATE
SEGMENT
IN VR

73%

MILLENNIALS

70%

GENERATION X

64%

BABY BOOMERS

**AGE GROUPS
MOST EXCITED
TO EXPERIENCE
VIRTUAL REALITY**



GET READY PARENTS!

GENERATION Z IS CRAVING VR

Of teens and tweens
interviewed...

70%

**WOULD "DEFINITELY" OR
"PROBABLY" ASK THEIR
PARENTS FOR A VR DEVICE**



VR & Home Design



This is the "Disruptive Opportunity" VR stage that will drive Millennials into stores, offices to try it. Sales experiences are changing and we must stay current in the home building Industry to adapt to those changes.



The Power of BIM & VR!

So whether you are a Homeowner, Designer, Builder, Contractor, Engineer or LBM Supplier...

Designing a new kitchen, garage, deck or new home should be a fun and engaging experience!

Everyone should easily work together and build from the same 3D BIM Model from concept to construction.

The process should be seamless and the data should be intelligent from concept to construction to future project.

A Seamless Engaging Experience TODAY

Millennials prefer a seamless shopping experience that is convenient, faster and more memorable.

Sales Tool

Download VR APP to
immerse clients in
the space.

Décor Centre

Experience
Selection of
Materials – Upsell!

Quotes

Instant quotes
Tied to POS
Materials organized
Into ship loads for
Delivery.

Social

Upload Model to
online viewer for
Tweet, Like, Pin

Finished Home

Easy 3D BIM for
homeowner to
renovate or for
maintenance

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