BIM的应用价值

Stephen Jones
行业调研高级总监
@sjonesdodge

Stephen Jones

- **本科: Johns Hopkins**
- **工商管理硕士: Wharton 商学院**
- **拥有建筑工程领域19年的经验**
  - 一个大型建筑工程公司 Burt Hill (现 Stantec公司)的董事会成员
- **3年施工软件企业的管理经验**
  - 副总裁: Primavera (现 Oracle公司)
- **在Dodge Data & Analytics超过12年的经验 (前McGraw Hill Construction)**
  - 行业调研高级总监
  - 就技术如何改变全球施工行业进行了数次深度的调研，报告发布以及演讲。

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Worlds #1 Source of Information about the Construction Industry

Dodge
Leading source of data, forecast and analysis about global construction

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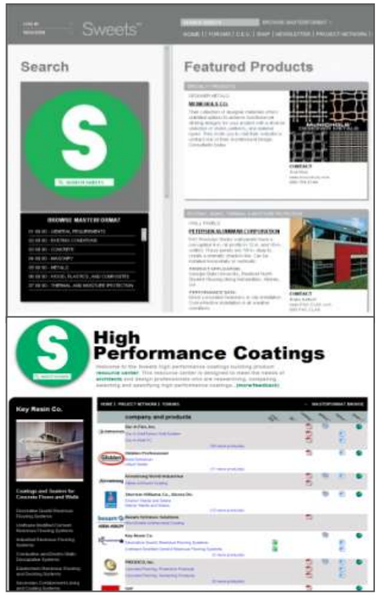

行业调研报告

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www.autodesk.com.cn/solutions/building-information-modeling/overview

行业洞察报告

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日程
Agenda

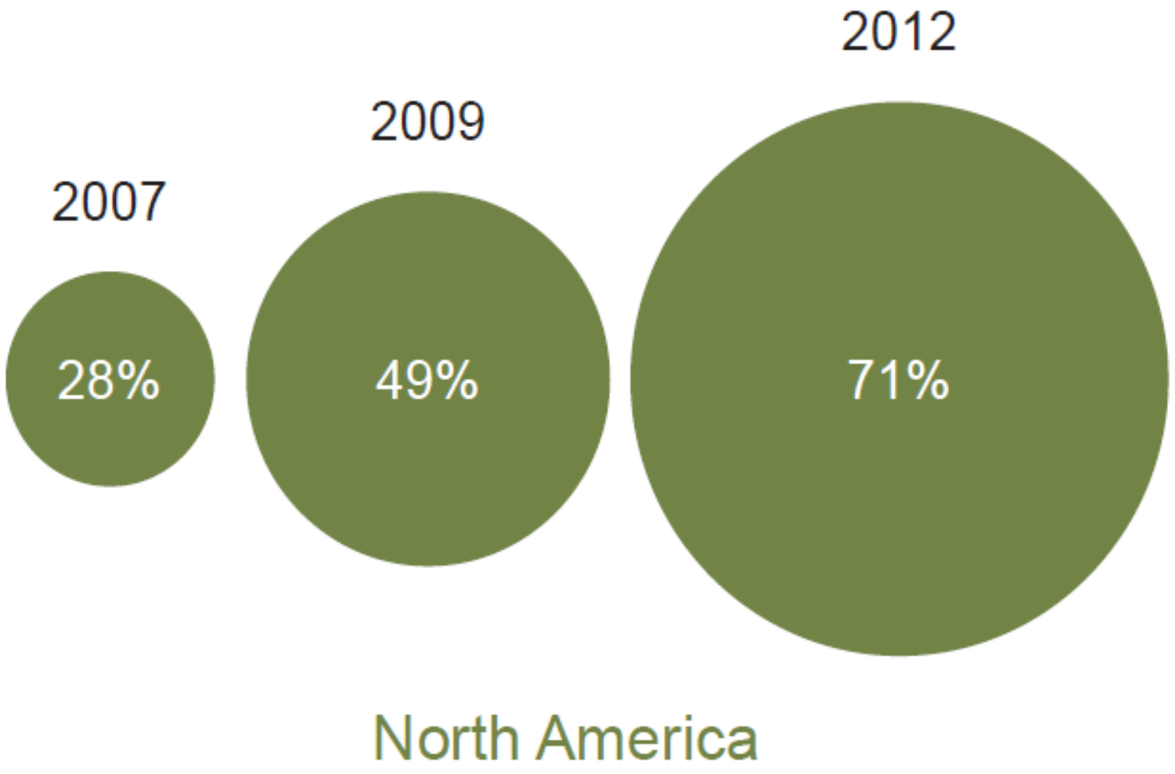
全球BIM和基于模型的流程发展关键趋势。
Key trends in the advance of BIM and model-based processes throughout the world

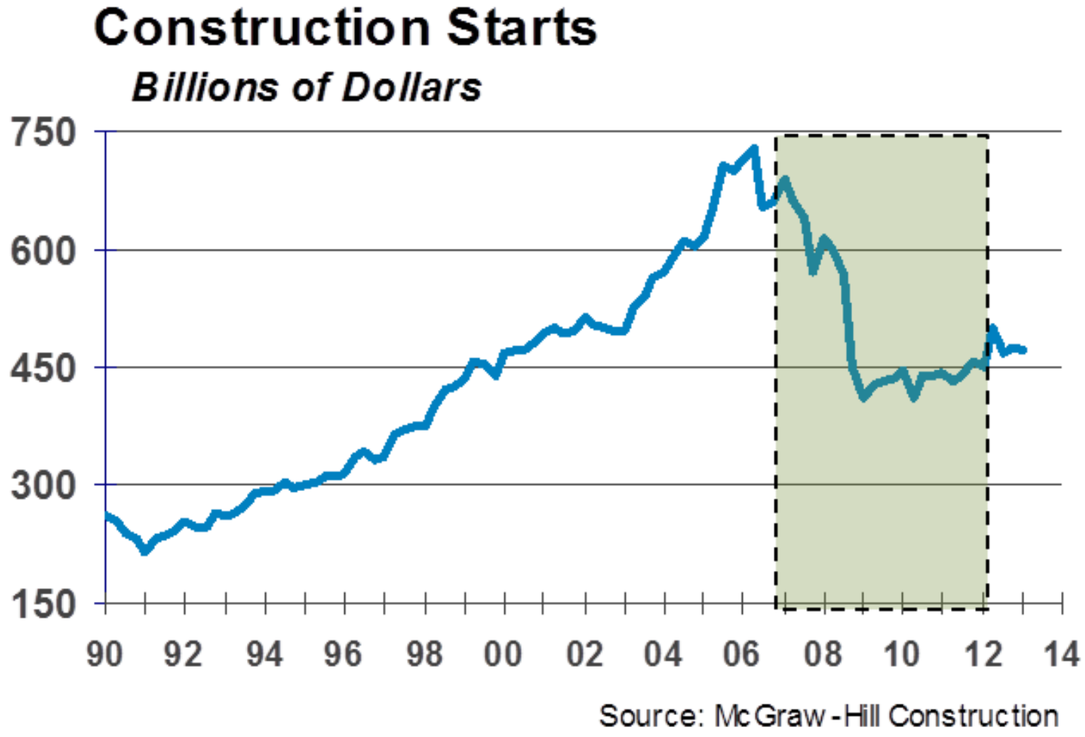
中国BIM应用价值研究报告的亮点
Highlights from BIM research in China

北美的BIM应用
BIM Adoption in North America

在经济危机下BIM的应用仍然明显增长

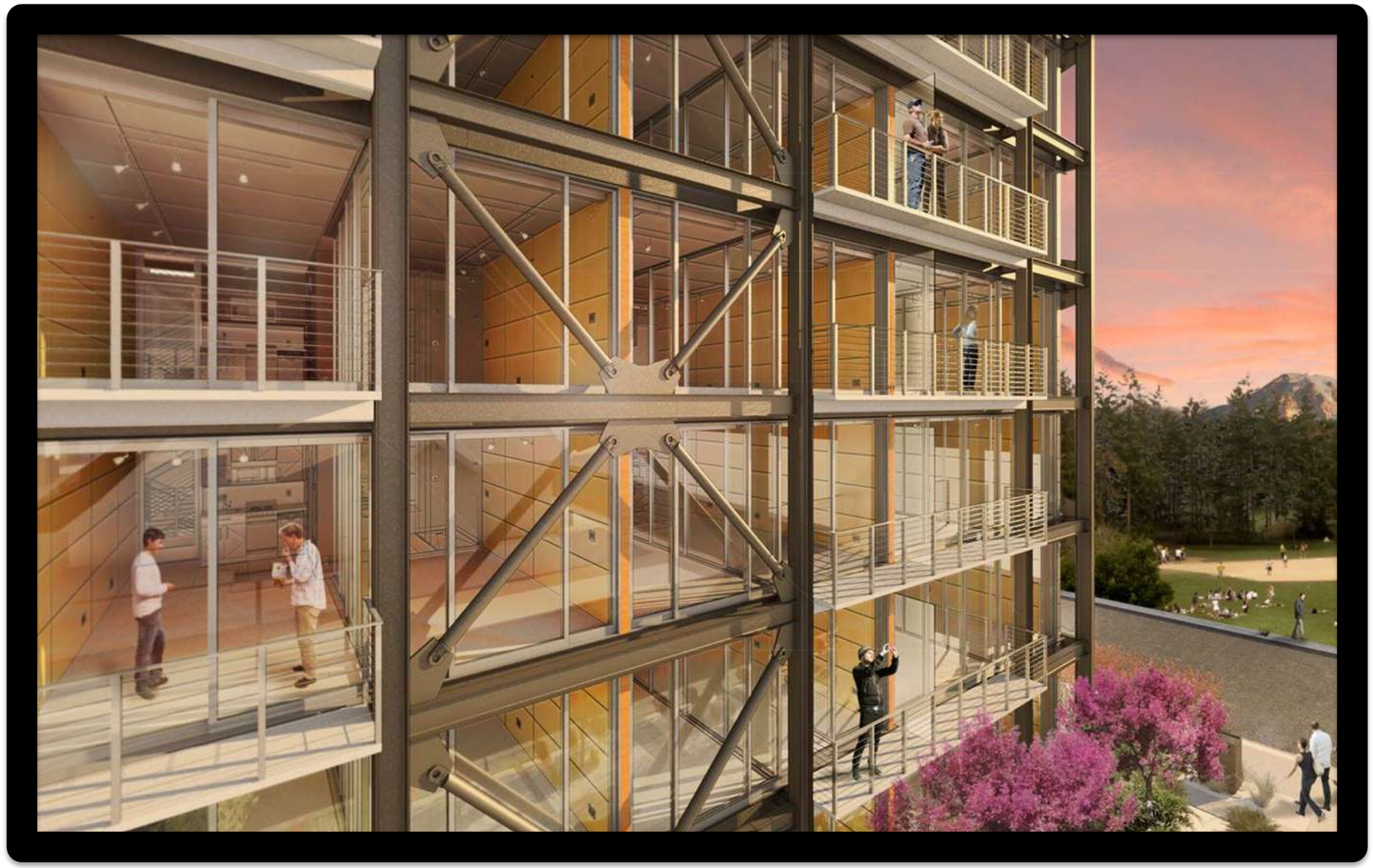
Adoption has grown strongly in spite of the financial recession





北美的BIM应用
BIM Adoption in North America

应用始于设计团队：可视化
Adoption began with the design team: VISUALIZATION



Source: Autodesk

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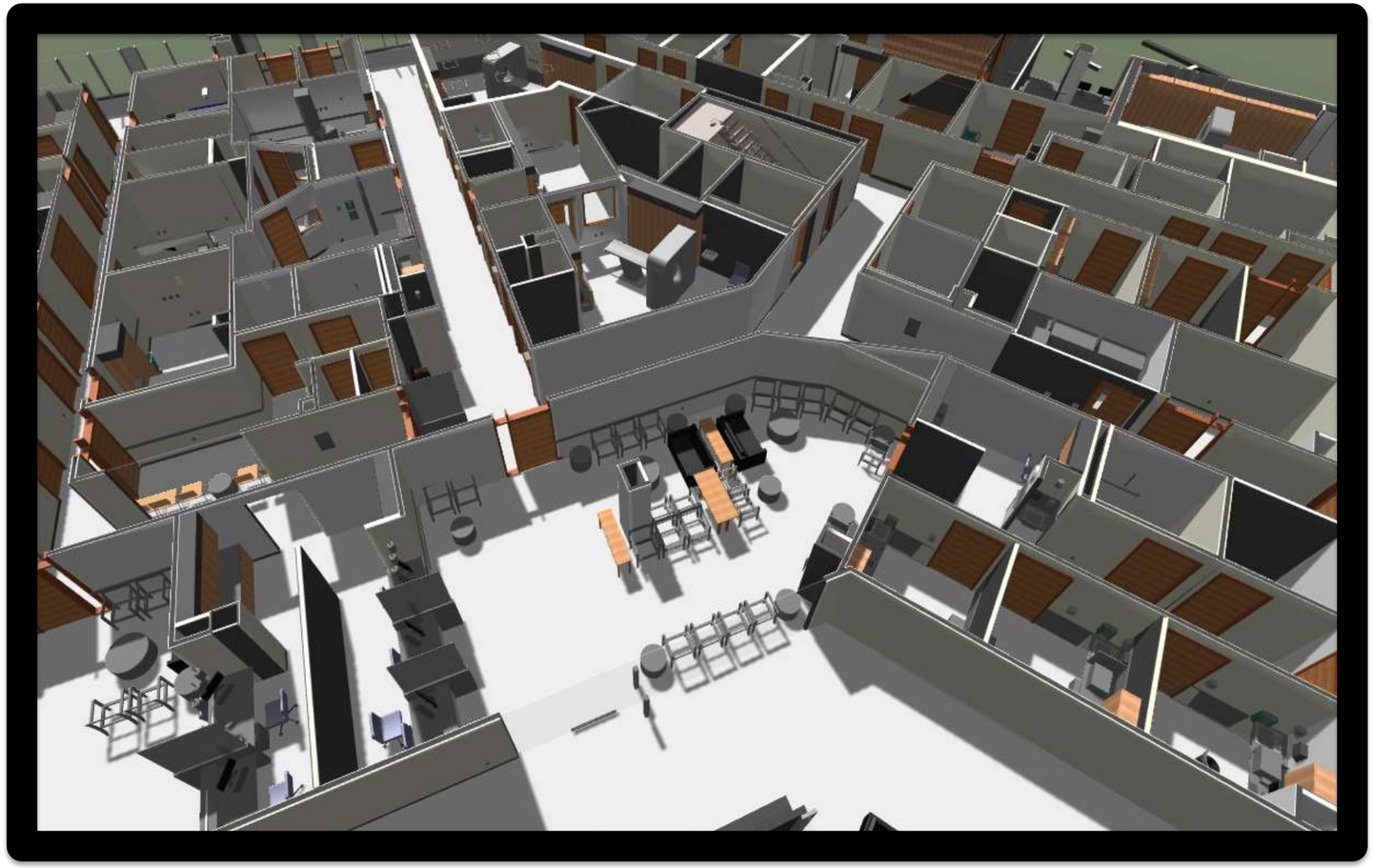


Source: NRI

北美的BIM应用
BIM Adoption in North America

应用始于设计团队：可视化
Adoption began with the design team: VISUALIZATION

Source: ArchVirtual

北美的BIM应用
BIM Adoption in North America

应用始于设计团队：可视化

Adoption began with the design team: VISUALIZATION

数字资料为可视化提供了更多的展现方式：全息打印

Digital data provides many ways to visualize projects: Holographic print

Source: Zebra Imaging

北美的BIM应用
BIM Adoption in North America

应用始于设计团队：可视化
Adoption began with the design team: VISUALIZATION

数字资料为可视化提供了更多的展现方式：视频模型

Digital data provides many ways to visualize projects: Model in Video

Source: ICA

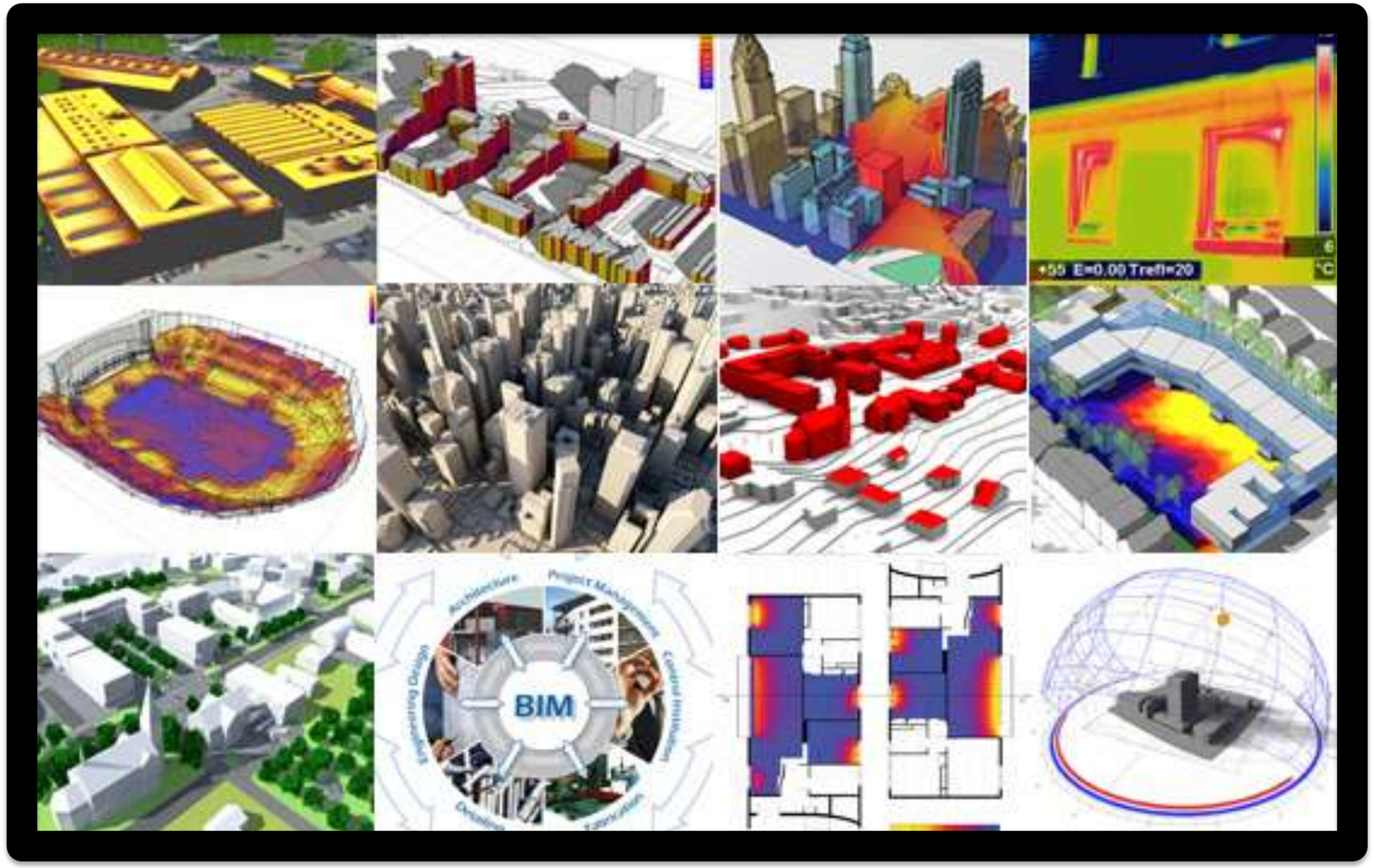
北美的BIM应用
BIM Adoption in North America

应用始于设计团队：交付更好的项目

Adoption began with the design team: DELIVER BETTER PROJECTS

分析和模拟可以实现更好的项目

Analysis and simulation can make better projects



Source: Autodesk

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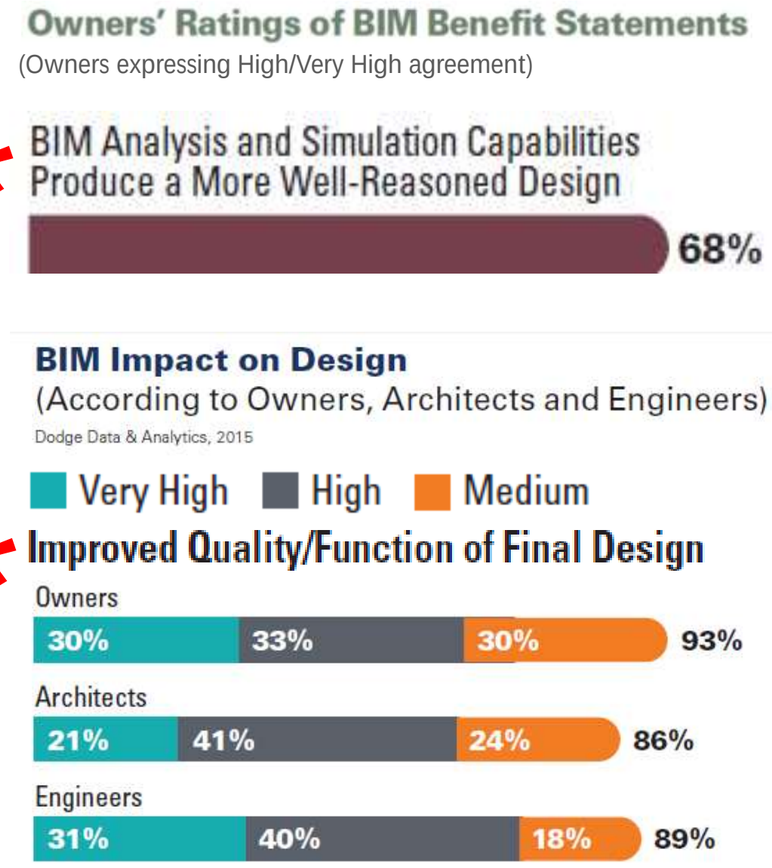
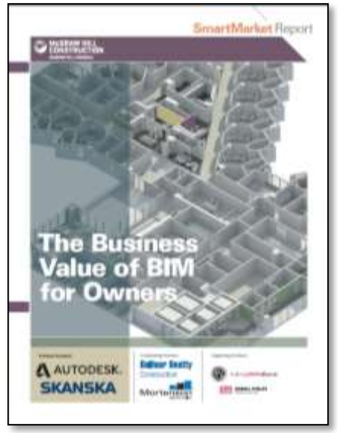




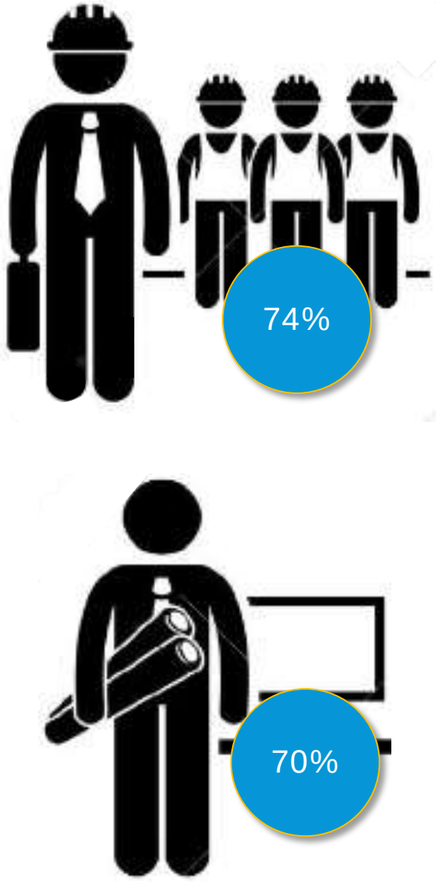
2014

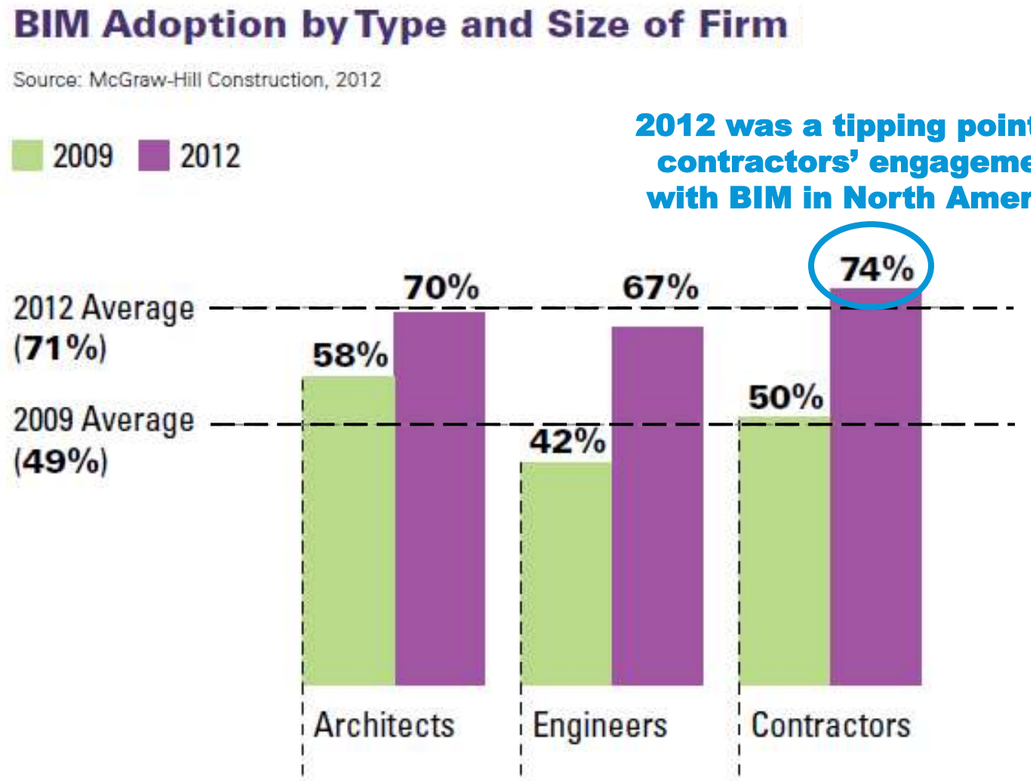
2015

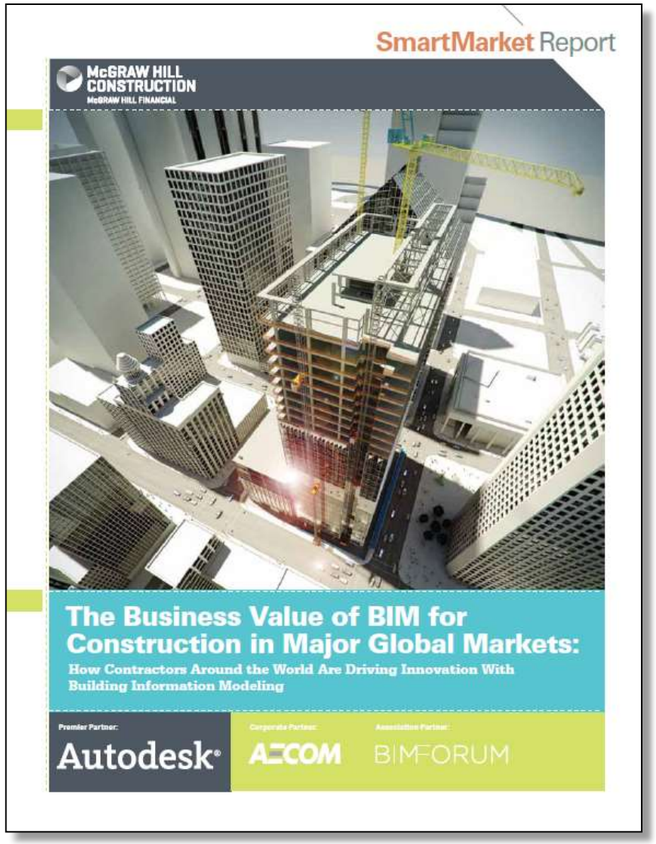
Source: Dodge Data & Analytics

北美的BIM应用
BIM Adoption in North America

2012年施工企业的BIM应用已经超越了设计企业
In 2012 contractors' adoption surpassed designers





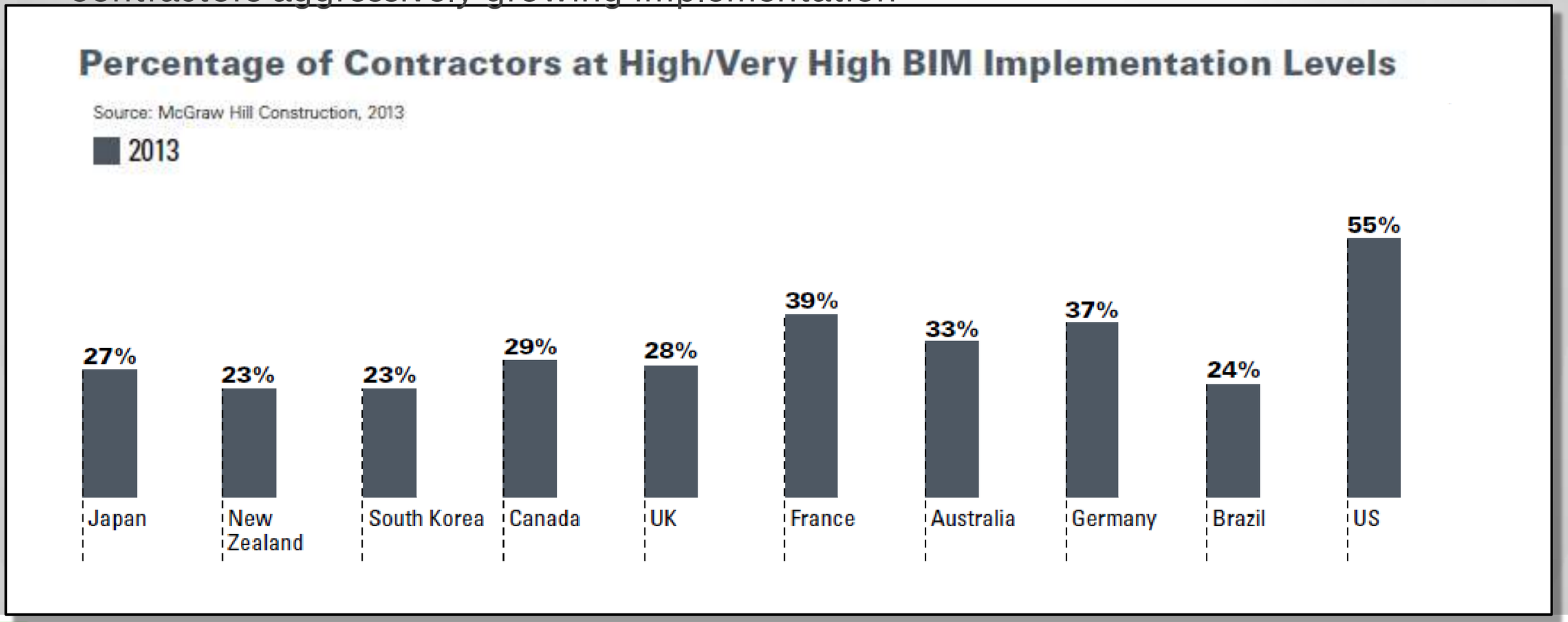


Source: Dodge Data & Analytics

全球施工企业的BIM应用
Contractors BIM Use Globally

施工企业的BIM应用正在快速的增长

Contractors aggressively growing implementation



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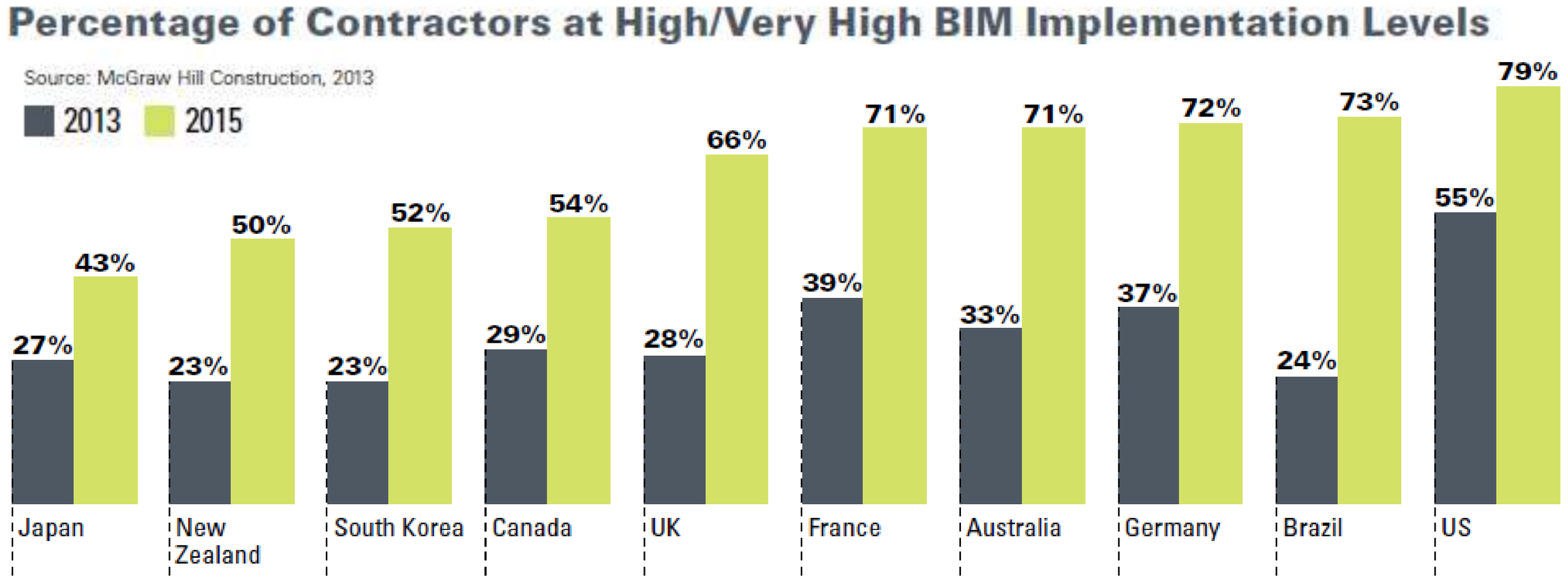

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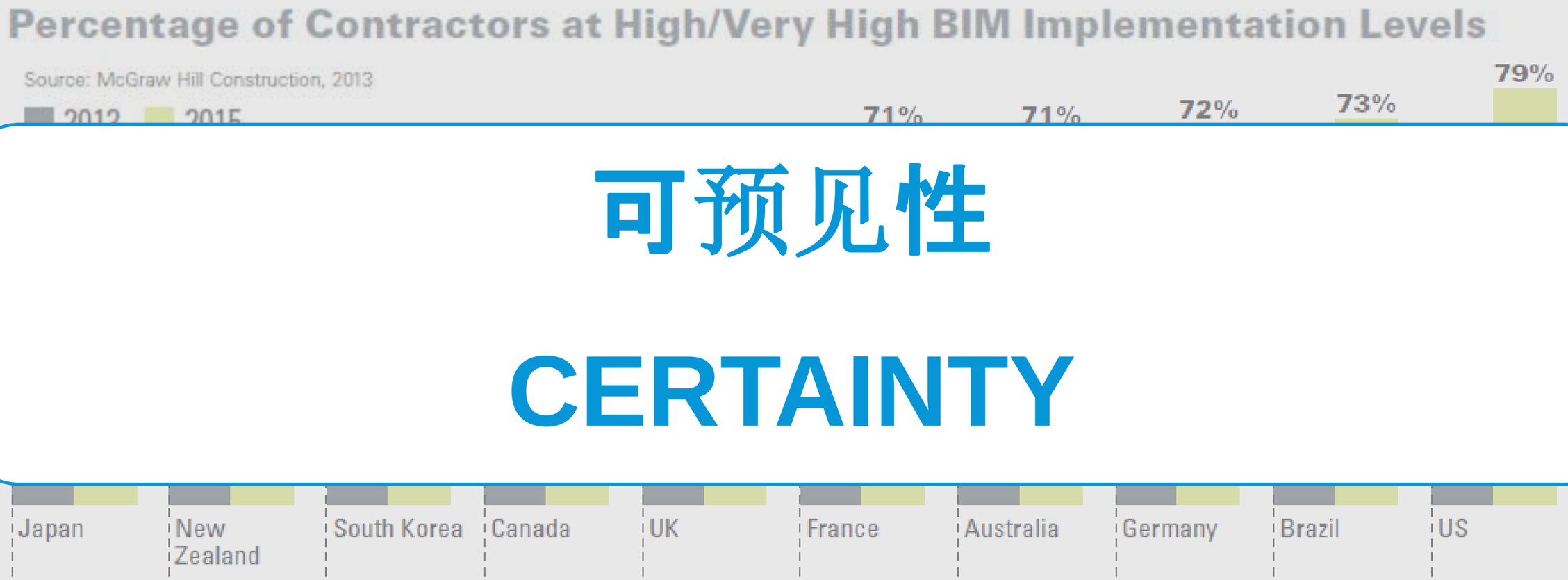


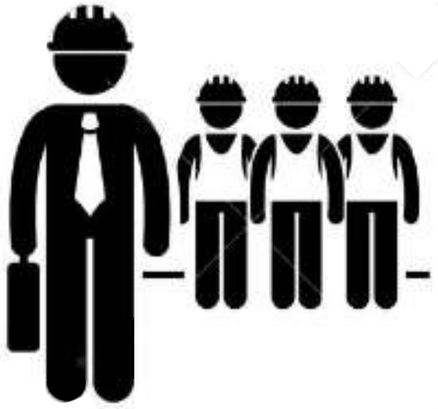
可预见性

CERTAINTY

全球施工企业的BIM应用
Contractors BIM Use Globally

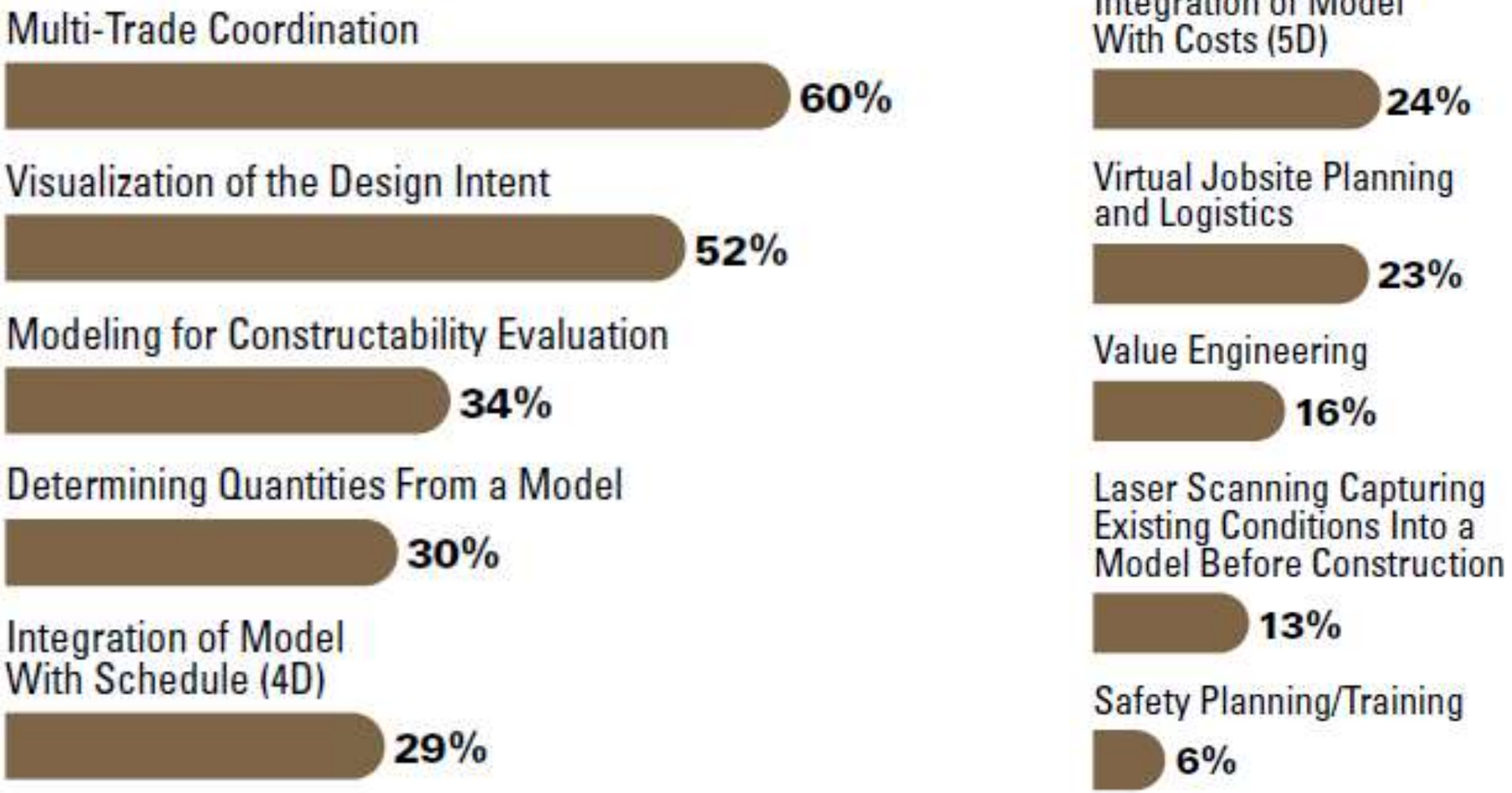
施工企业在施工准备阶段的十大BIM应用方向

Contractors top 10 BIM activities during Preconstruction



增强施工的可预见性

Increasing the level of certainty for construction



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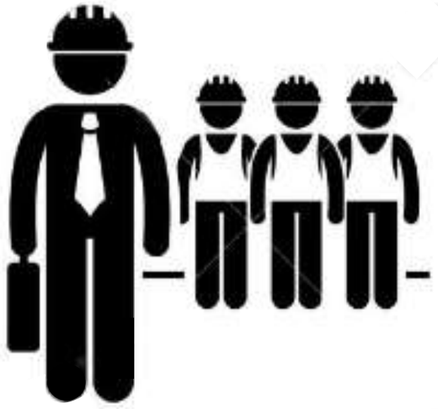

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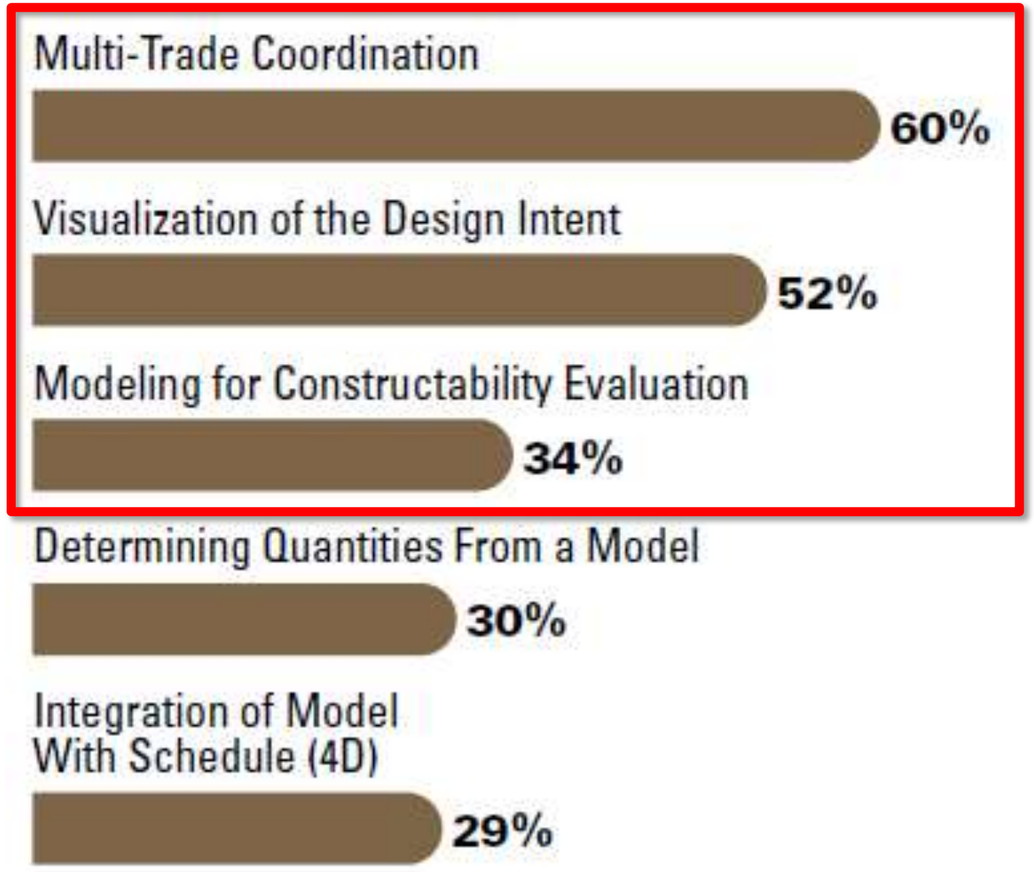

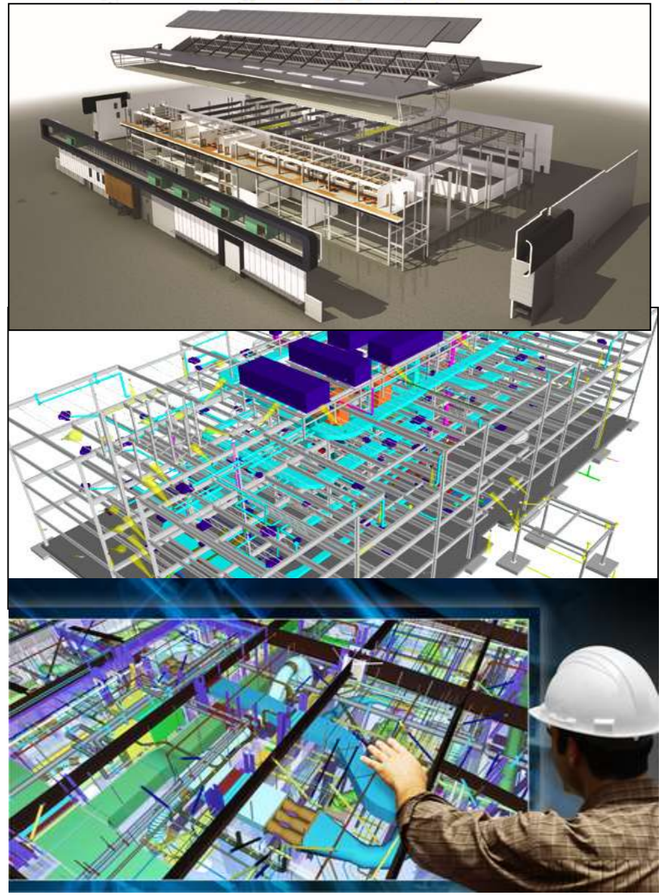


BRT Stations
High Density
Medium Density
Low Density
WSP

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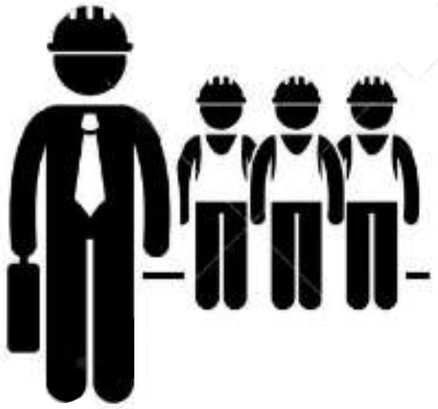

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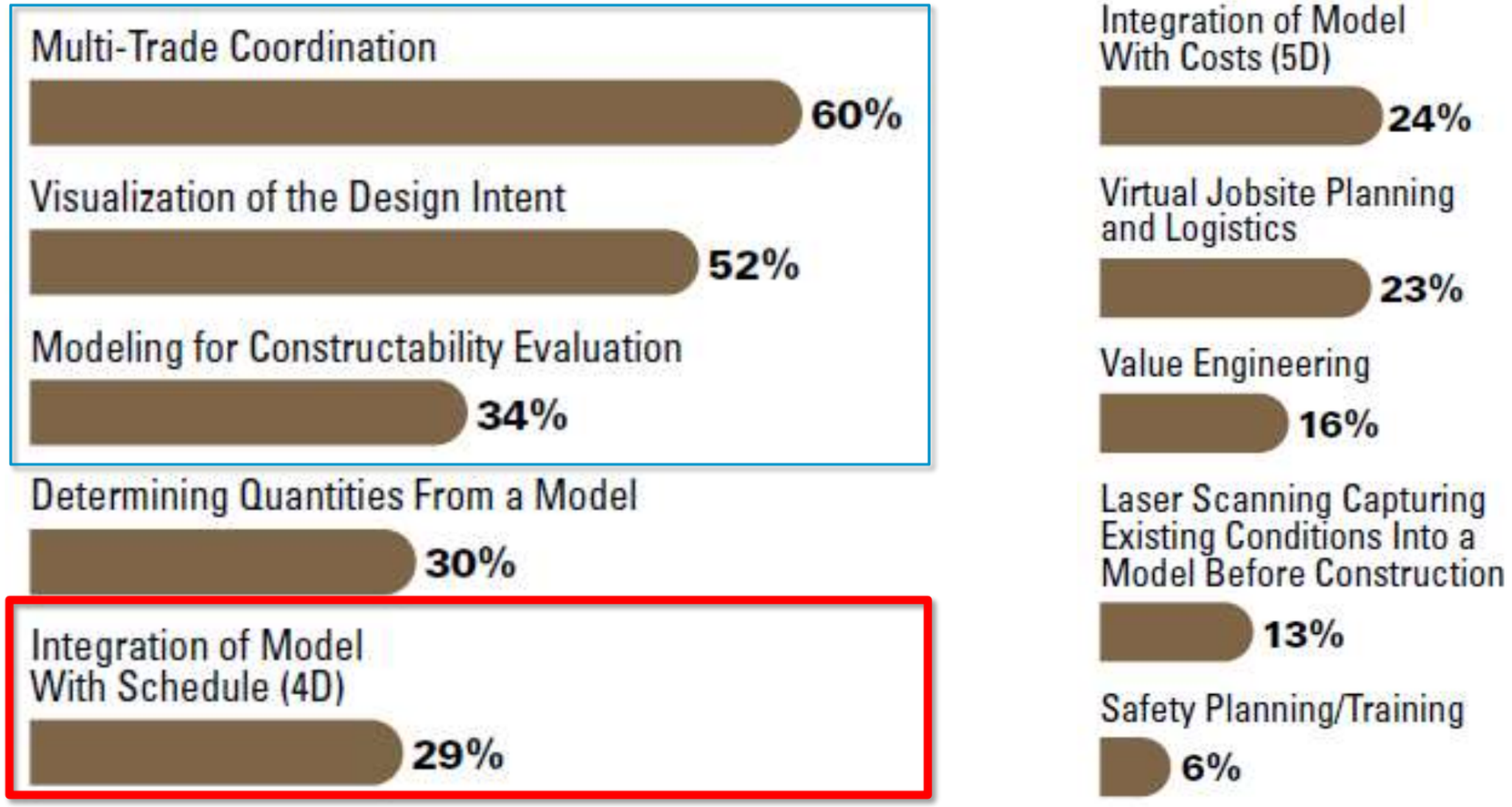

Source: Hatch
Mott MacDonald

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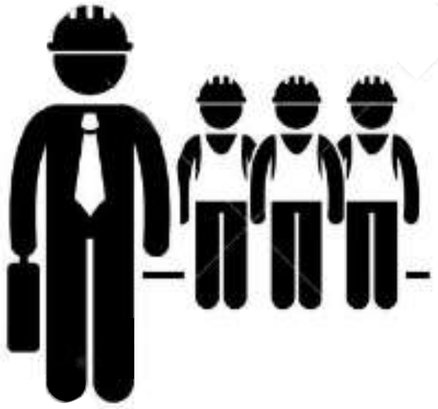

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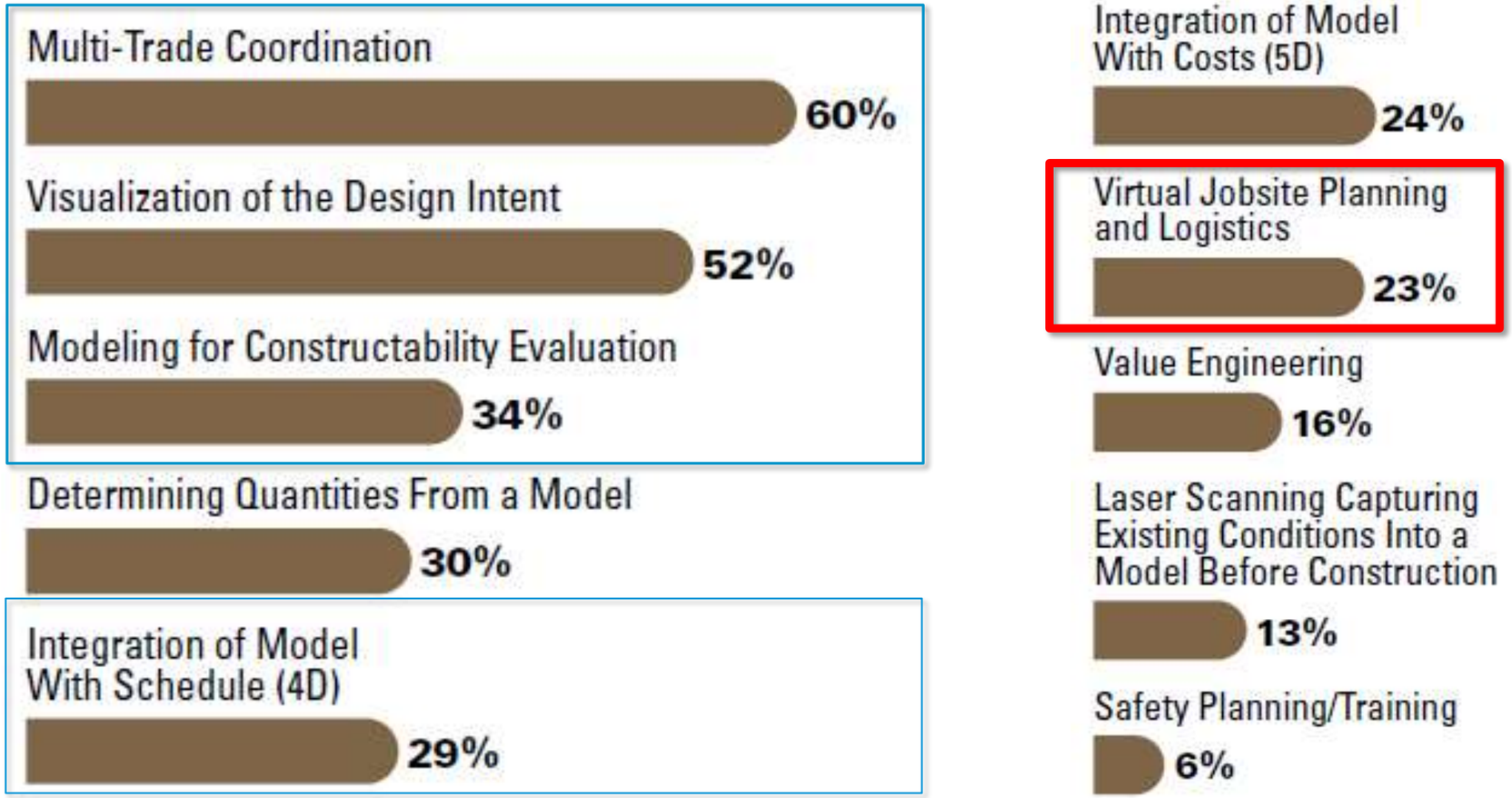

M 01	M 02	M 03	M 04	M 05	M 06	M 07	M 08	M 09	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24	M 25	M 26	M 27	M 28	M 29	M 30	M 31	M 32	M 33	M 34	M 35	M 36

Award of Project

Image: Pinnacle Infotech

M 01	M 02	M 03	M 04	M 05	M 06	M 07	M 08	M 09	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24	M 25	M 26	M 27	M 28	M 29	M 30	M 31	M 32	M 33	M 34	M 35	M 36

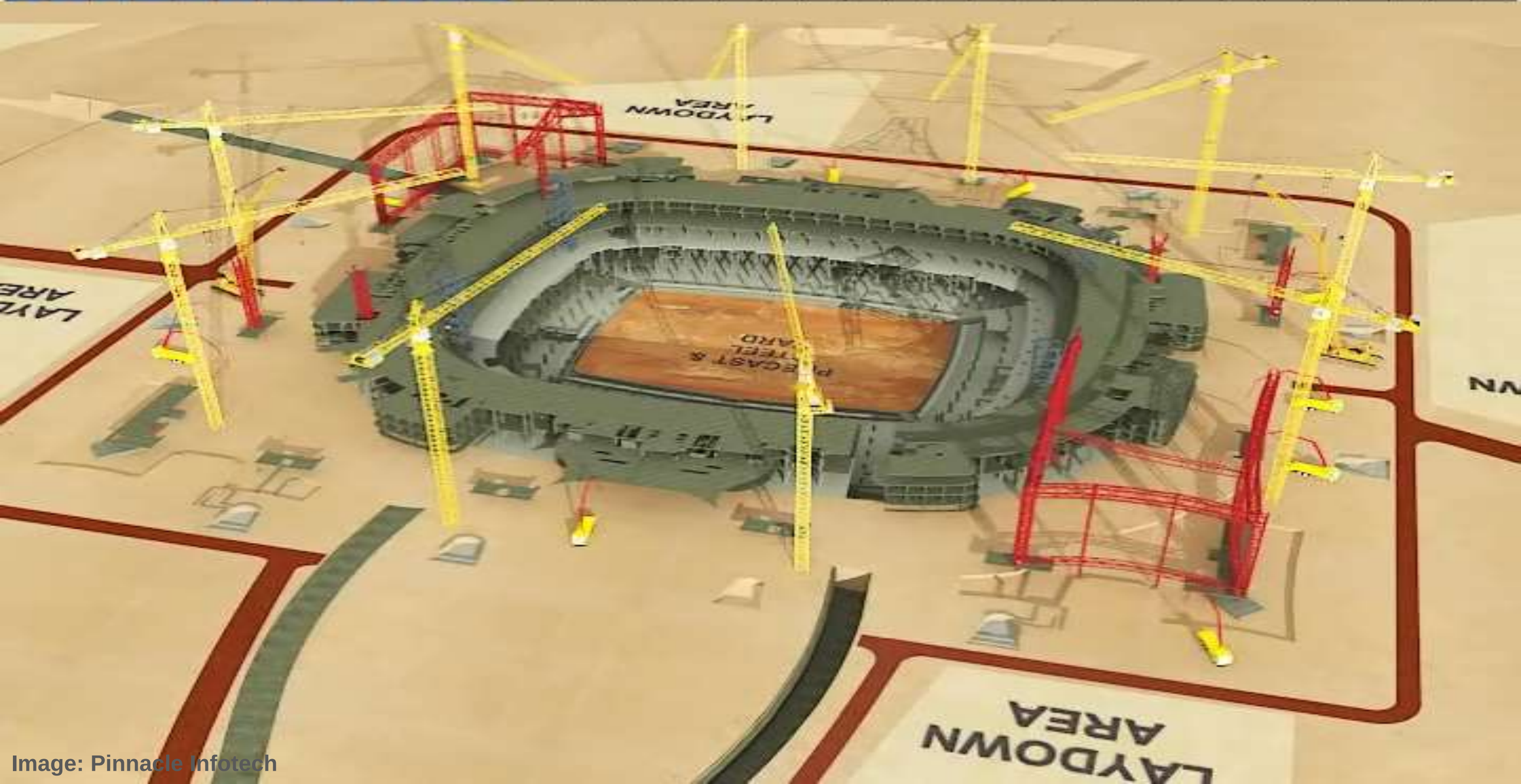

Image: Pinnacle Infotech

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Image: Pinnacle Infotech

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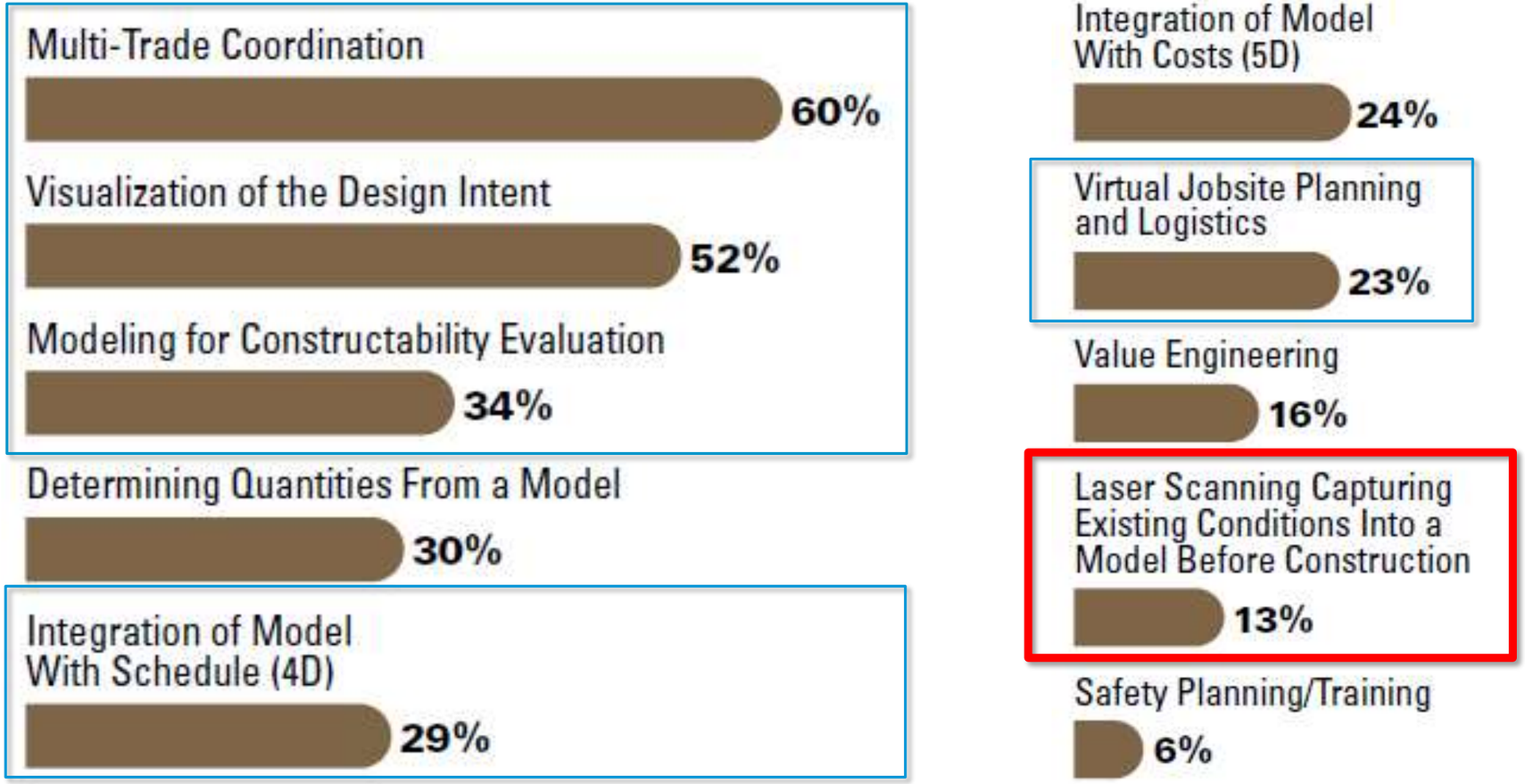
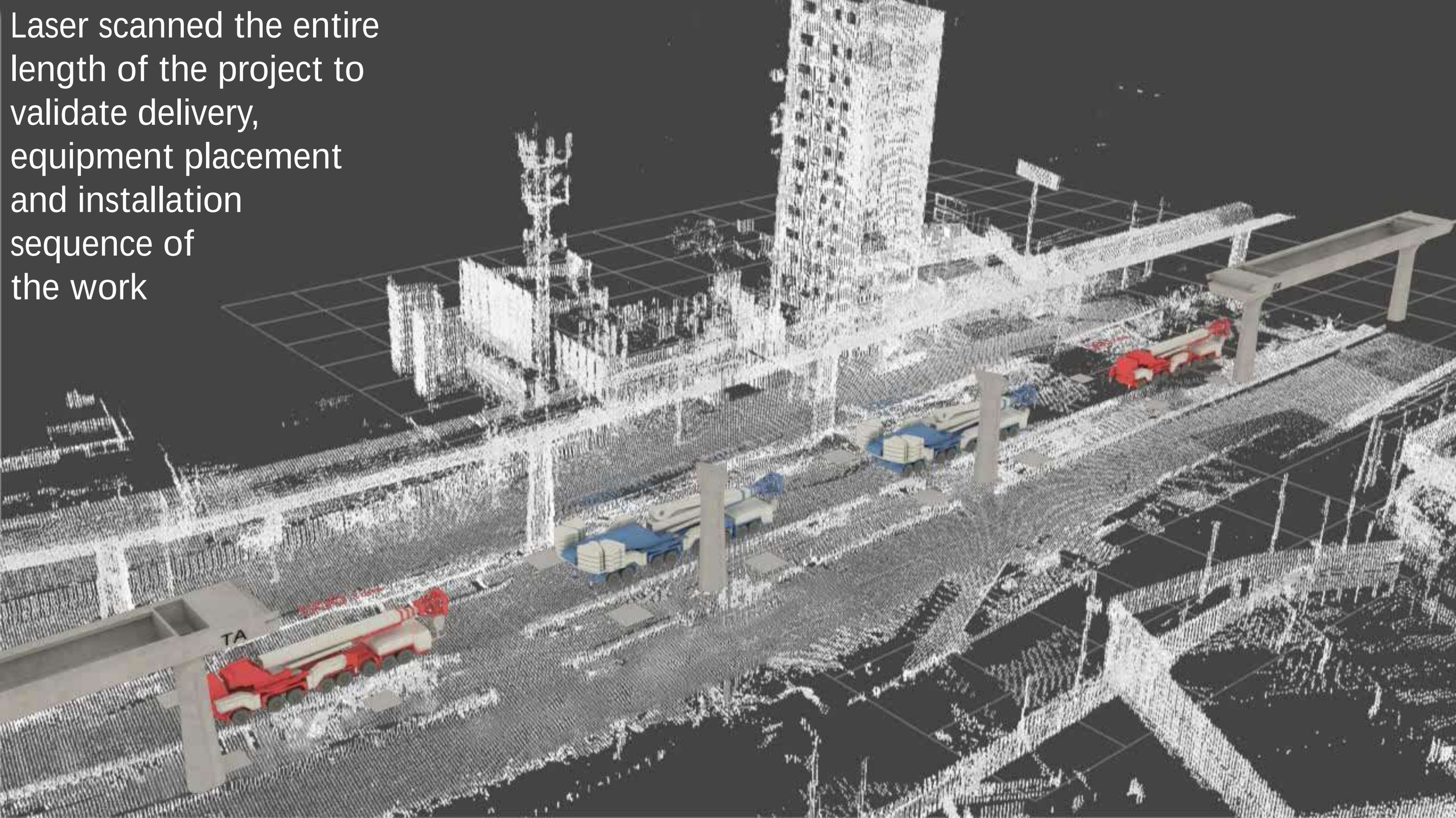


Source:
ICA

Laser scanned the entire length of the project to validate delivery, equipment placement and installation sequence of the work




SALAS
$4,990
80

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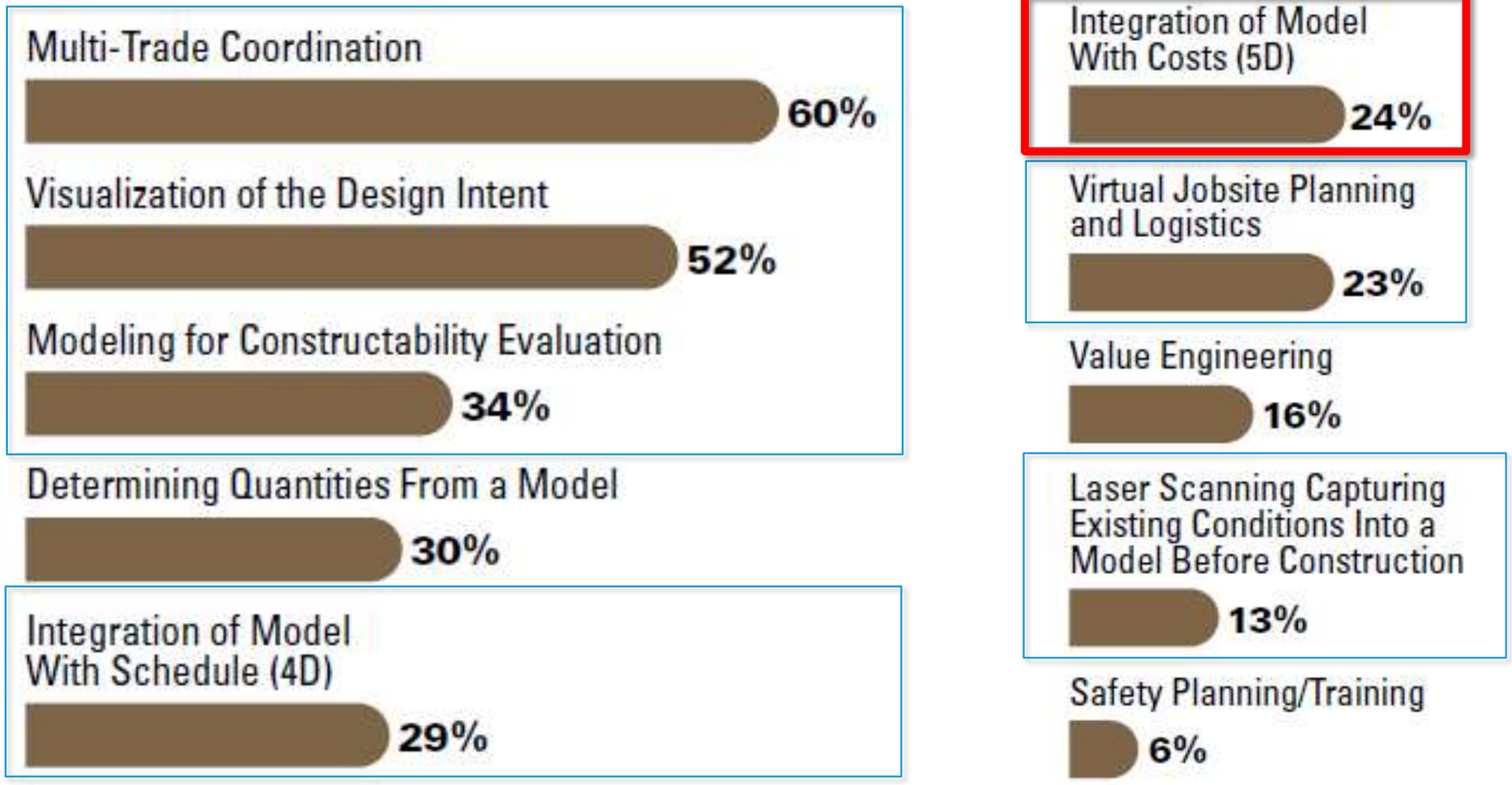


Autodesk Navisworks Manage 2014 Final Test2013 (2013version).nwd

Home Viewpoint Review Animation View Output Render Add-ins

Tools

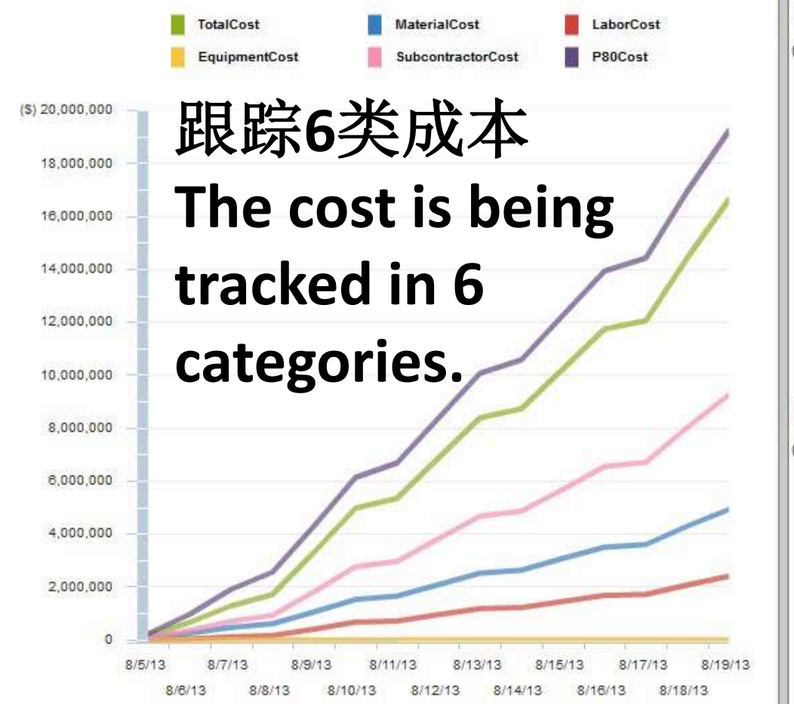
Monday 9:00:00 AM 8/5/2013 Day=1 Week=1
Material Cost = 0.00
Equipment Cost=0.00
Labor Cost=0.00
Total Cost with Overhead and Profit = 0.00

随着施工的进程
As the building is being built…

整合进度
The schedule is integrated…

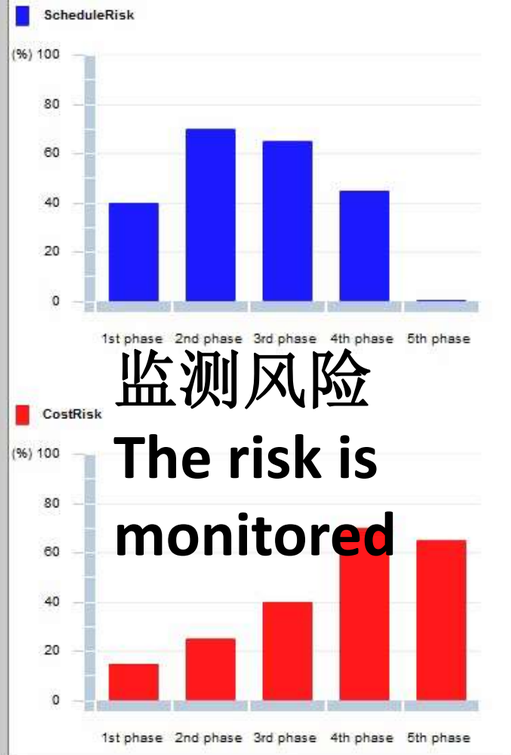
BasicDockPanePlugin!

Cost Chart



跟踪6类成本
The cost is being tracked in 6 categories.

Risk Chart



监测风险
The risk is monitored

play pause stop 25

TimeLiner

Tasks Data Sources Configure Simulate

8/5/2013 Settings... 09:00 8/5/2013 17:00 8/19/2013

Name Status Planned Start Planned End Actual Start Actual End

Monday August 05, 2013 Tuesday August 06, 2013

9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM 5 PM 6 PM 7 PM 8 PM 9 PM 10 PM 11 PM 12 AM 1 AM

Ready 1 of 1 574 MB

1:17 PM 1/9/2015

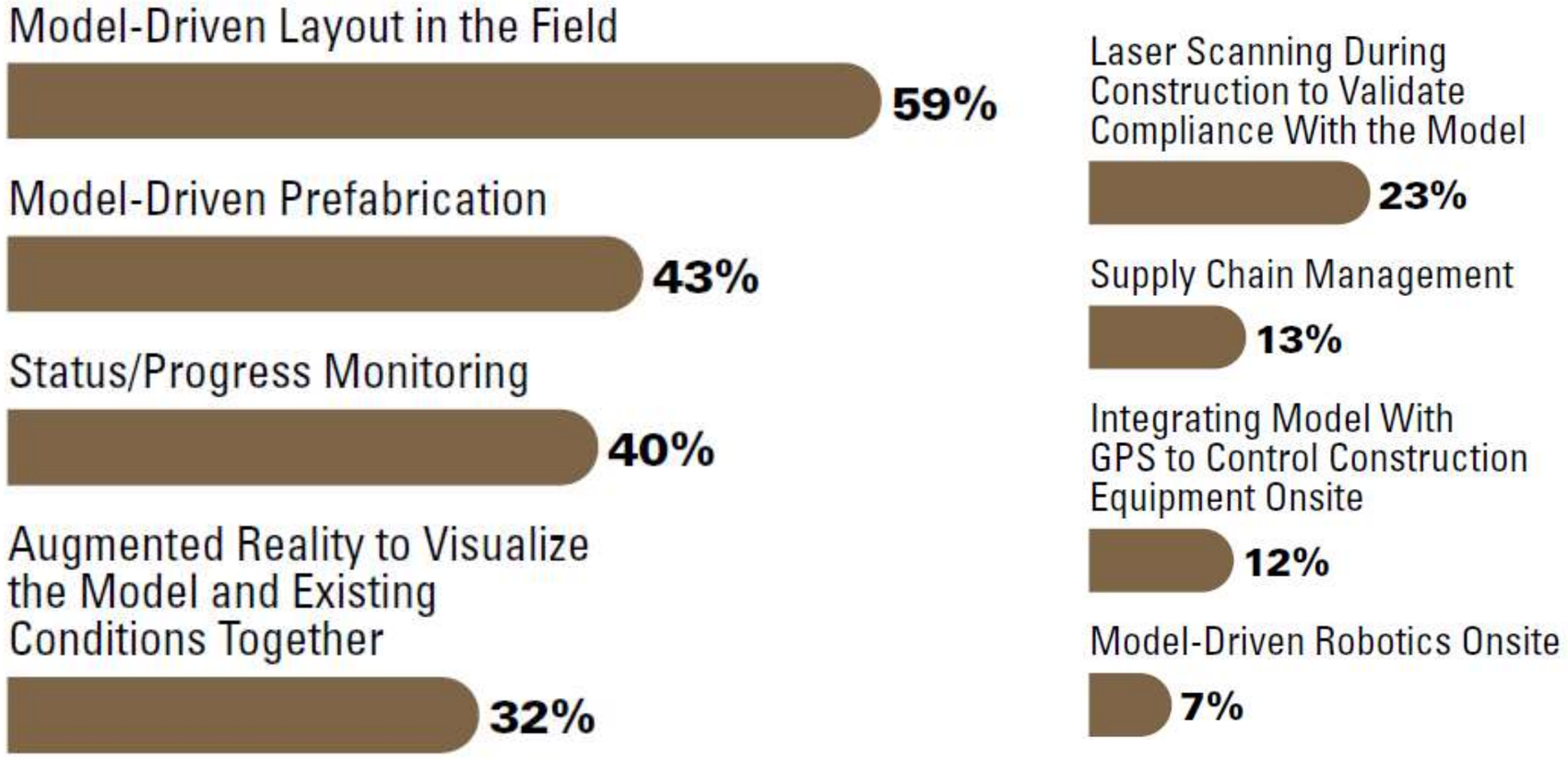
全球施工企业的BIM应用
Contractors BIM Use Globally

在施工、预制和安装阶段的八大BIM应用方向

Contractors top 8 BIM activities during Construction, Fabrication and Installation

更确定地进行施工

Implement construction with greater certainty



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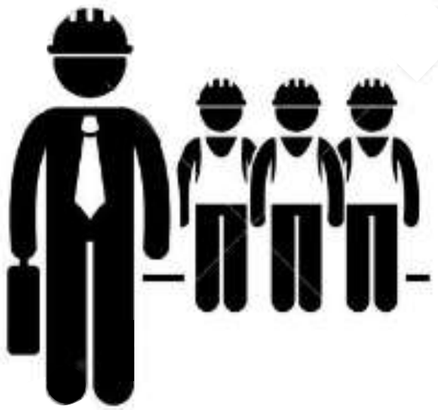

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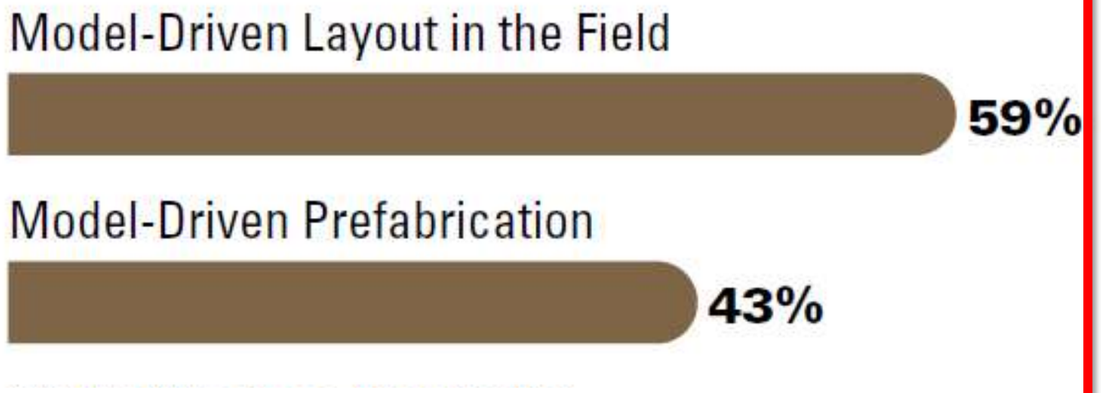

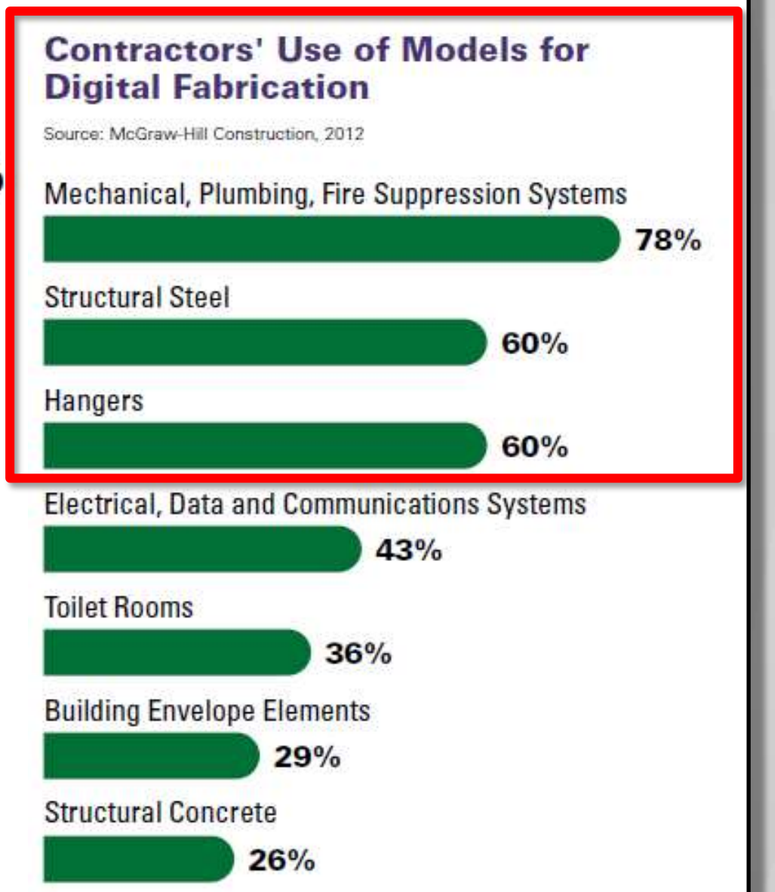

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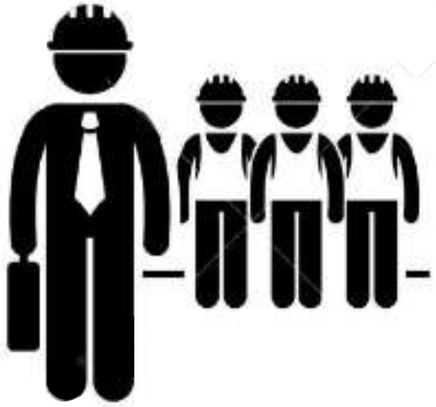

模型驱动的机电预制

Model-driven prefabrication of mechanical systems

全球施工企业的BIM应用
Contractors BIM Use Globally

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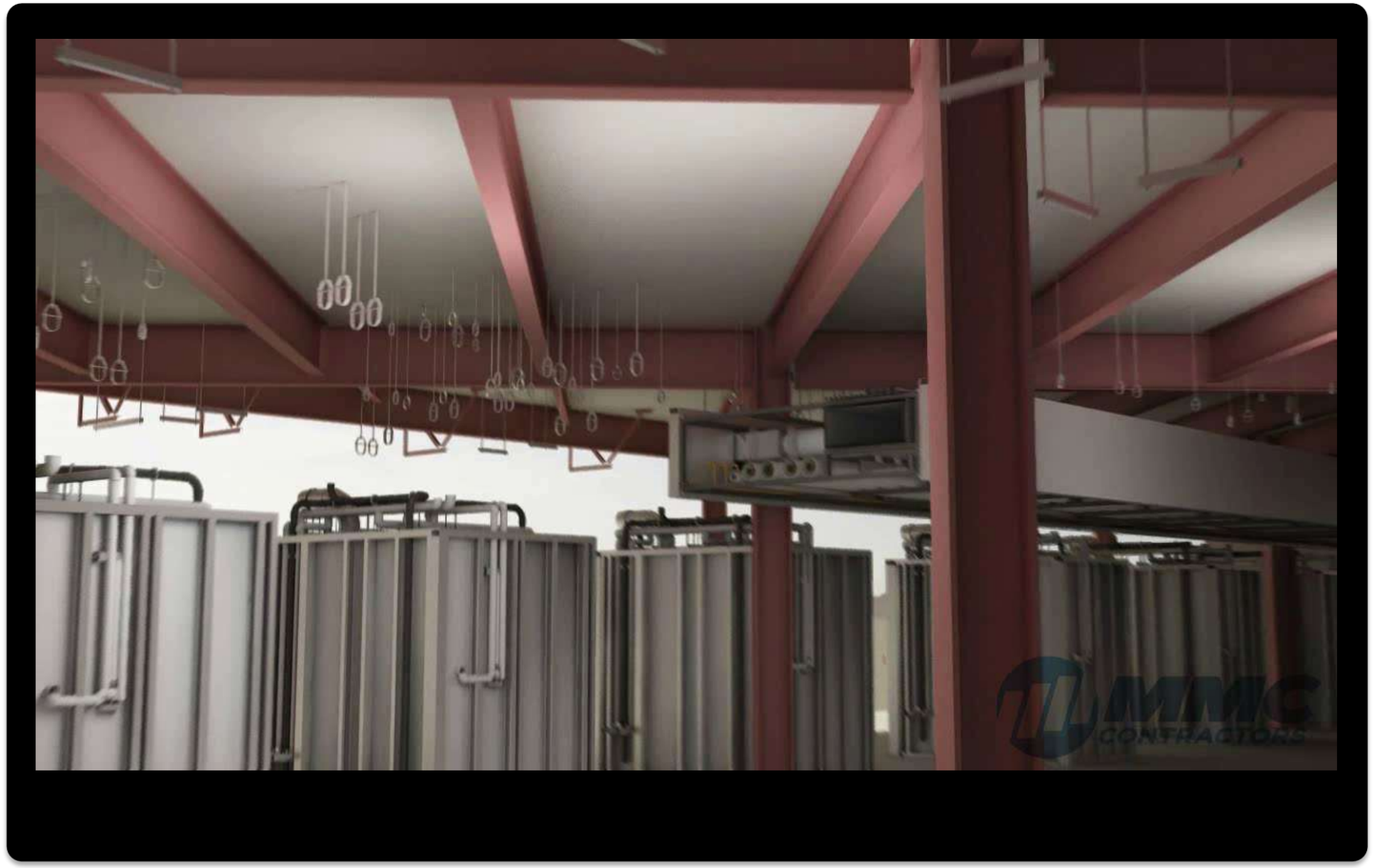
Contractors top 8 BIM activities during Construction, Fabrication and Installation

模型驱动的放样及吊装

Model-driven layout from above to install hangars



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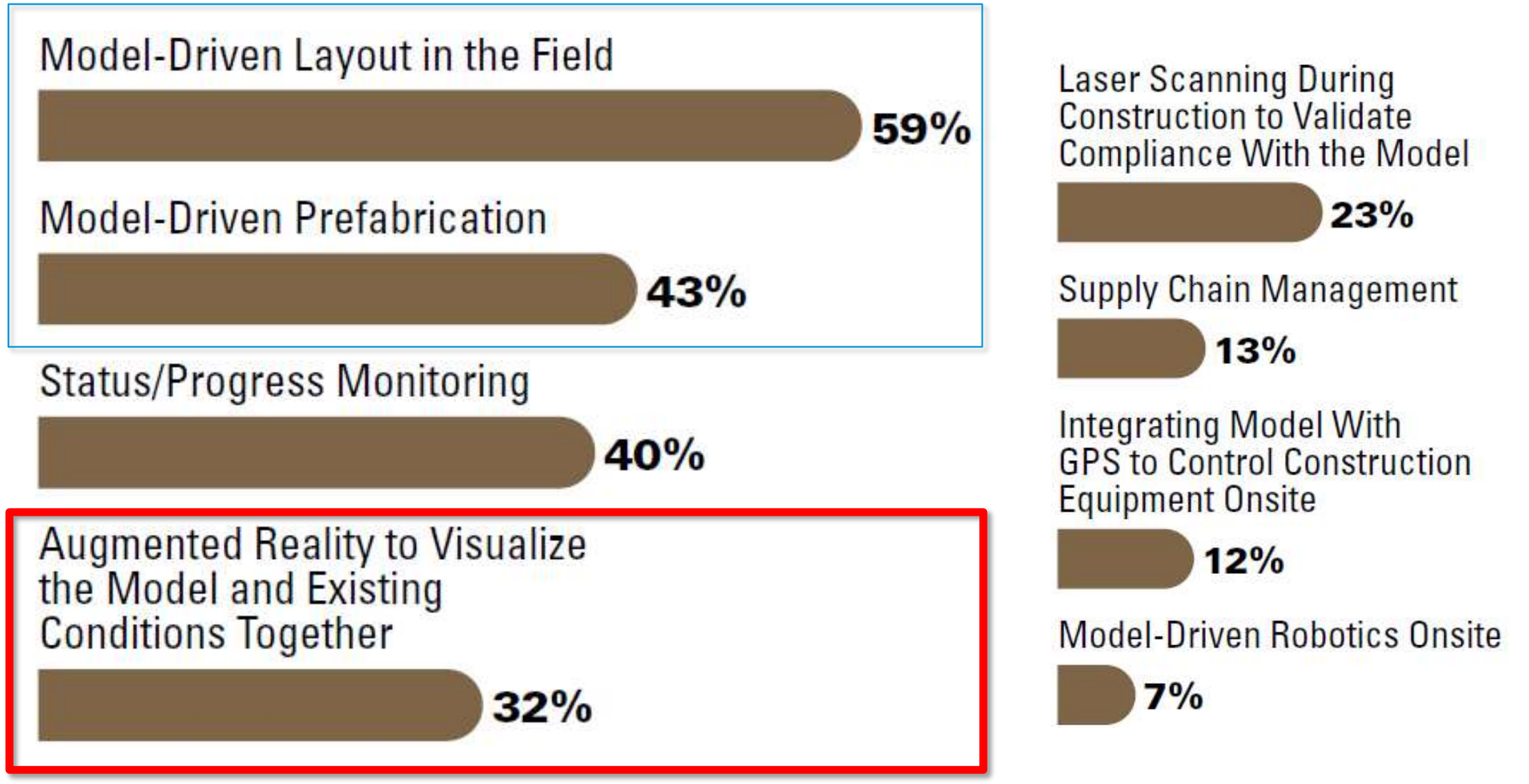

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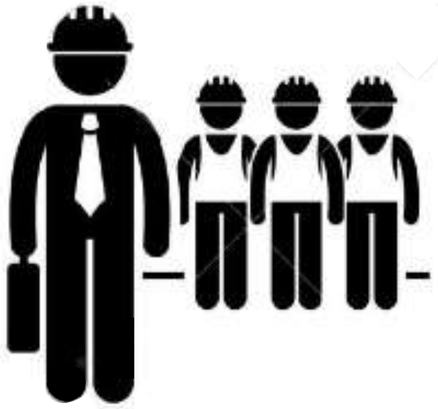
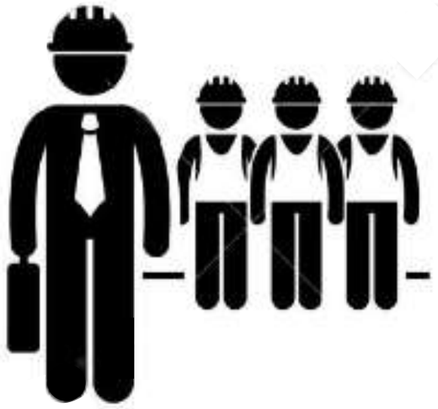


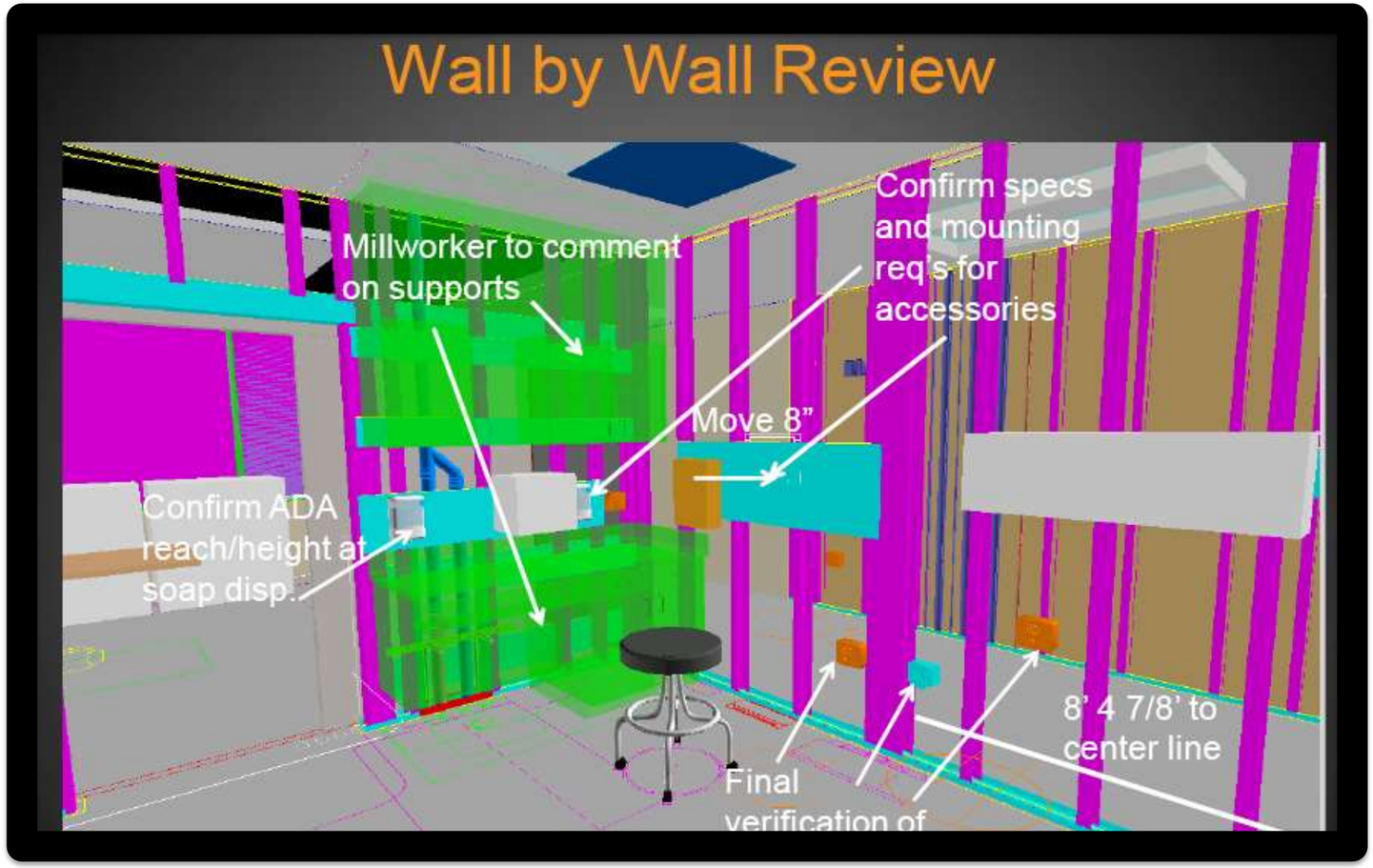
模型驱动的模块式内装
Model-driven modularization of interior construction

全球施工企业的BIM应用
Contractors BIM Use Globally



模型驱动的所有系统和设备的协调

Model driven coordination all systems and equipment



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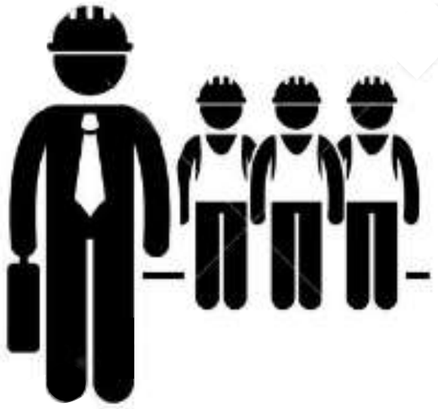


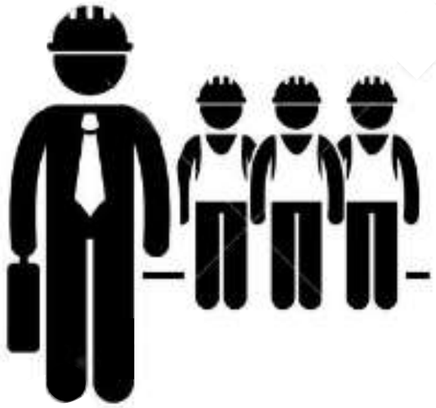
通过现实捕捉验证施工方案

Augmented reality to validate before final install

全球施工企业的BIM应用
Contractors BIM Use Globally

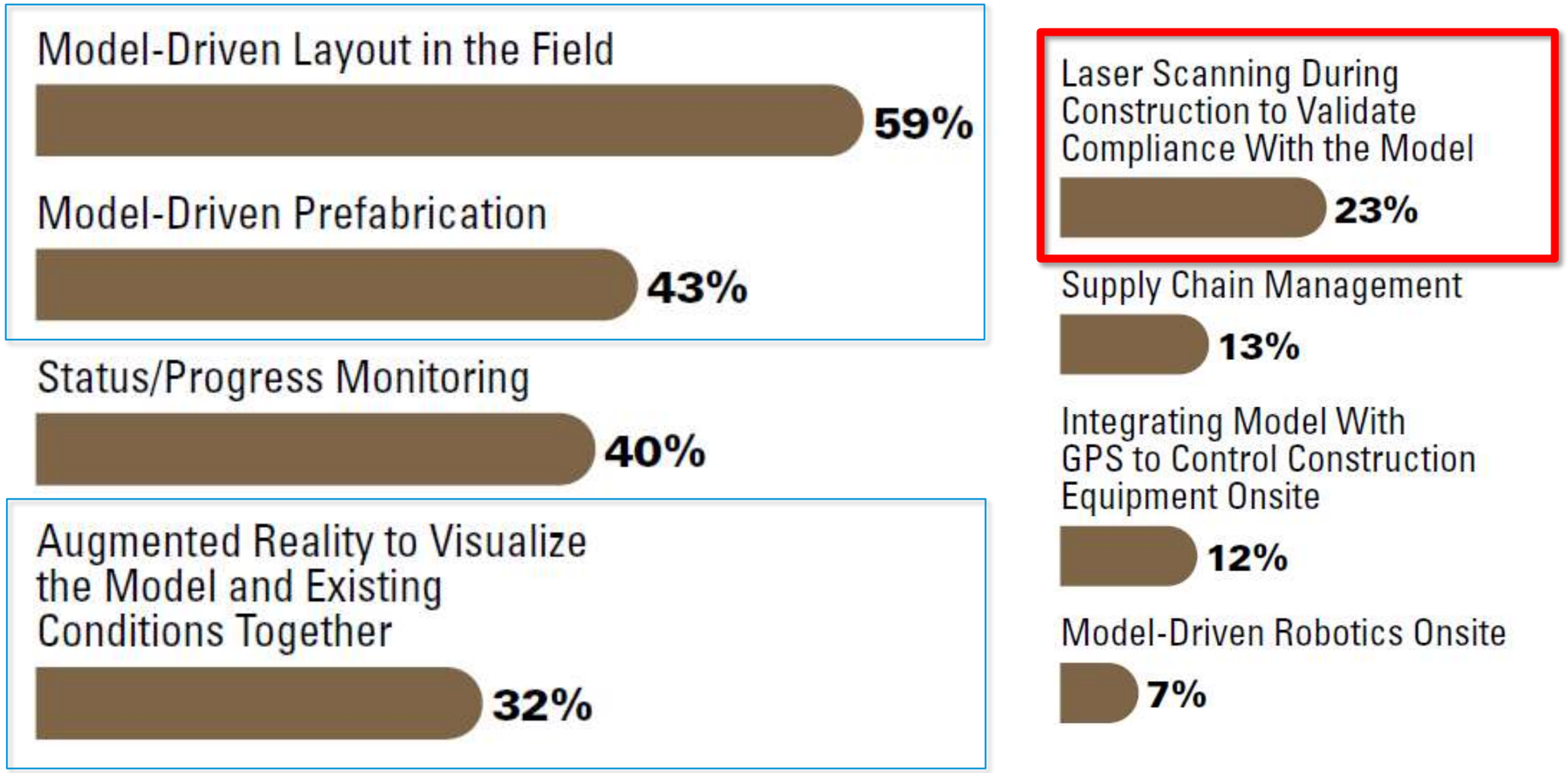
在施工、预制和安装阶段的八大BIM应用方向

Contractors top 8 BIM activities during Construction, Fabrication and Installation

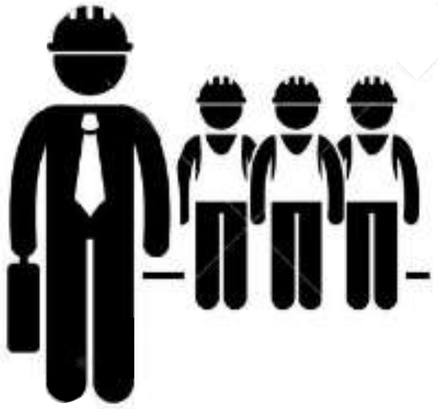


更确定地进行施工

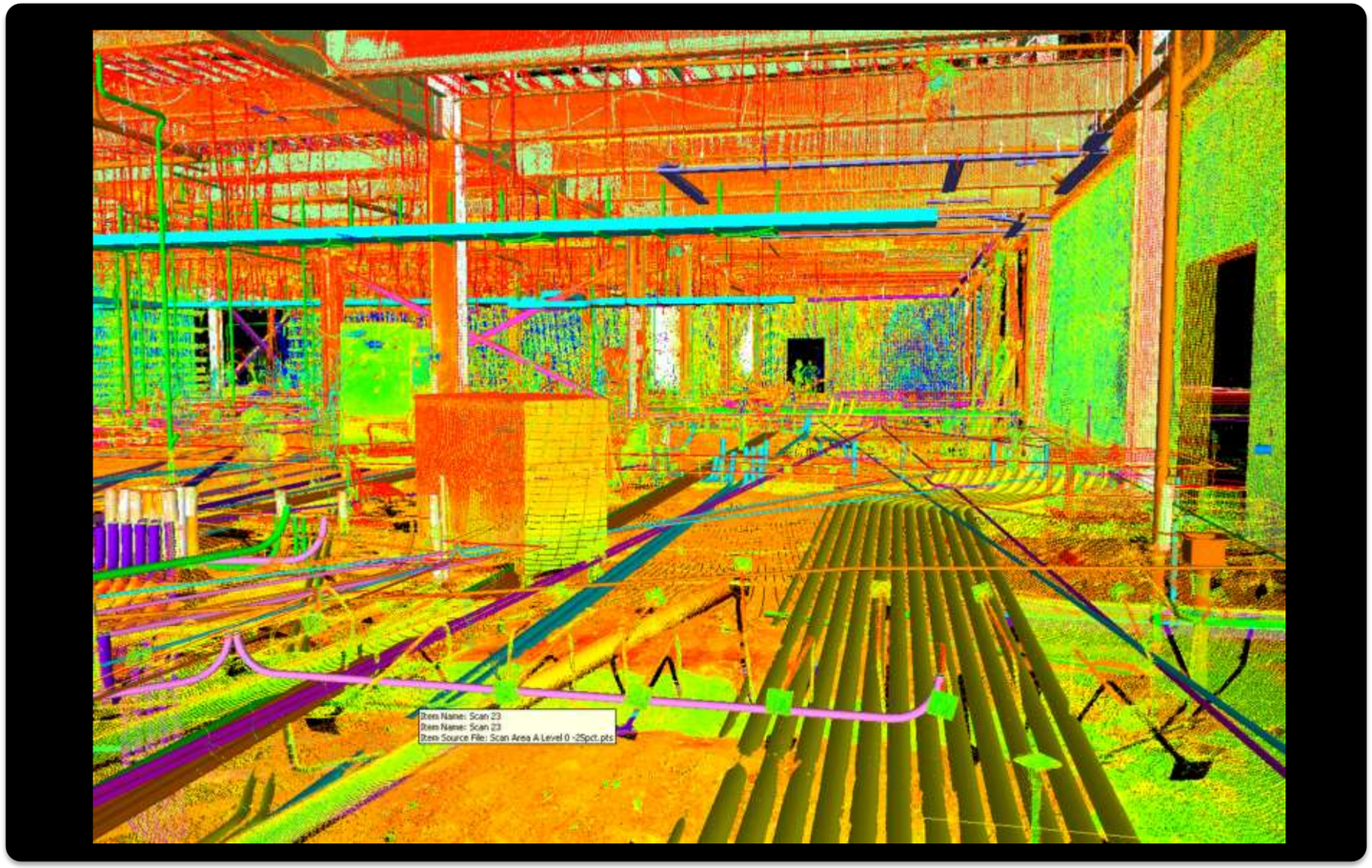
Implement construction with greater certainty



全球施工企业的BIM应用
Contractors BIM Use Globally



在灌装混凝土前扫描
Scan before
pouring concrete
on metal deck



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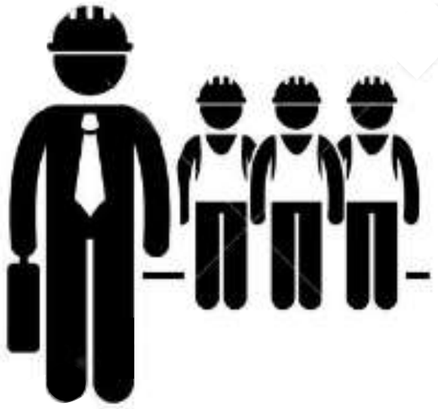
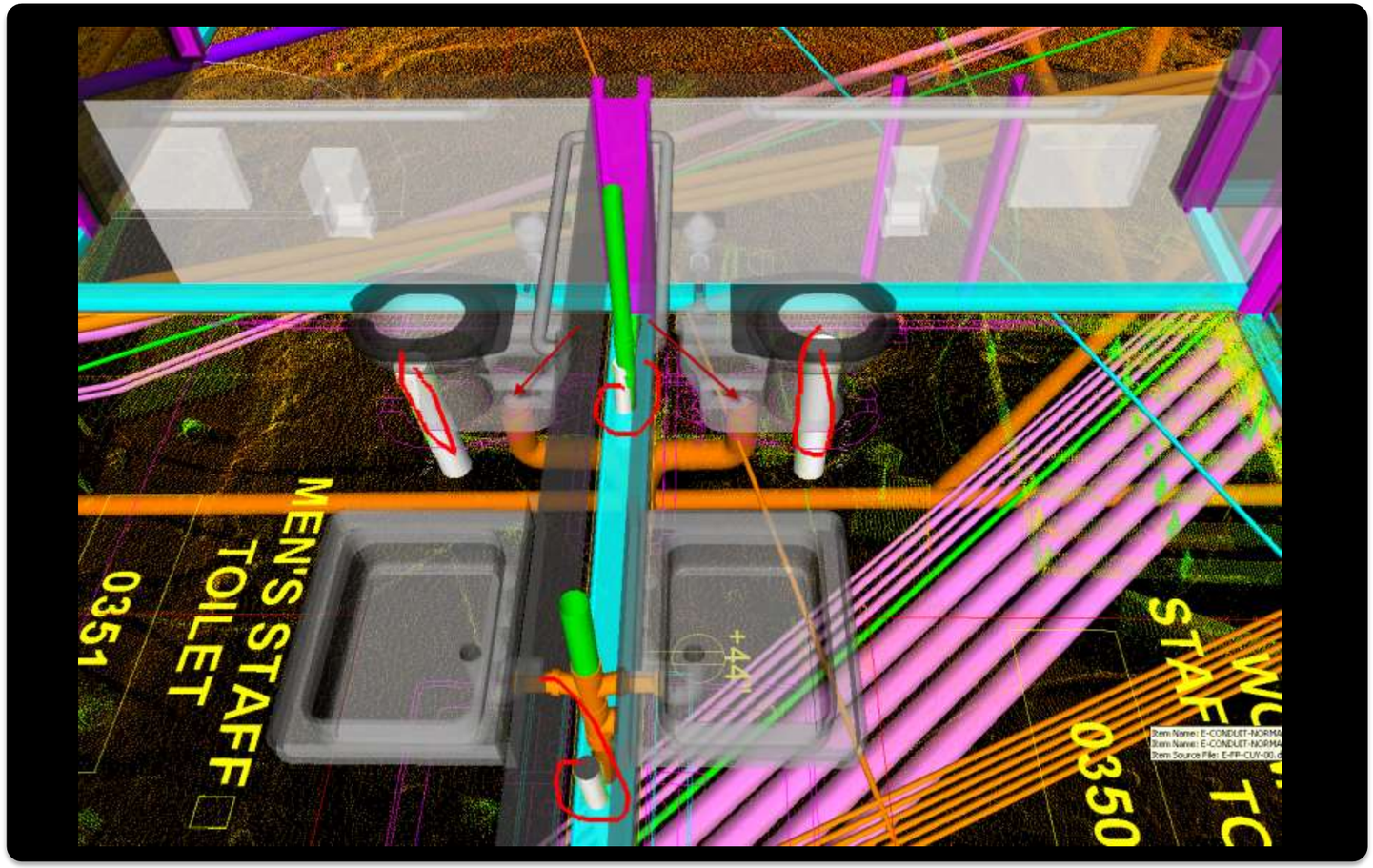


与模型对比验证精确性
Compare to model to validate for accuracy



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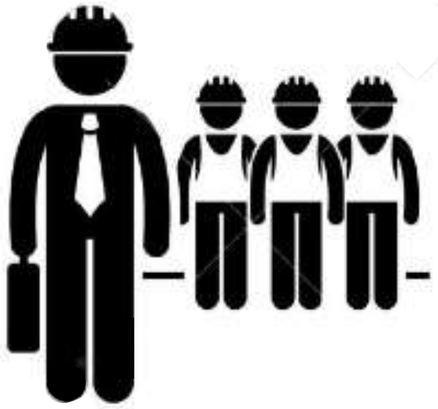
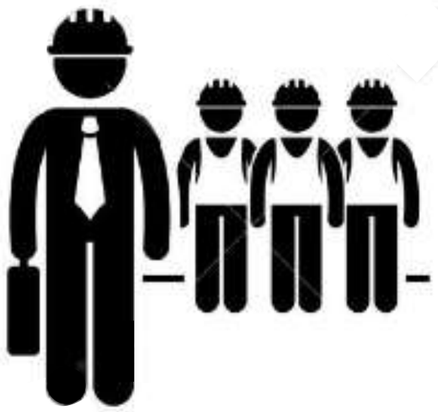


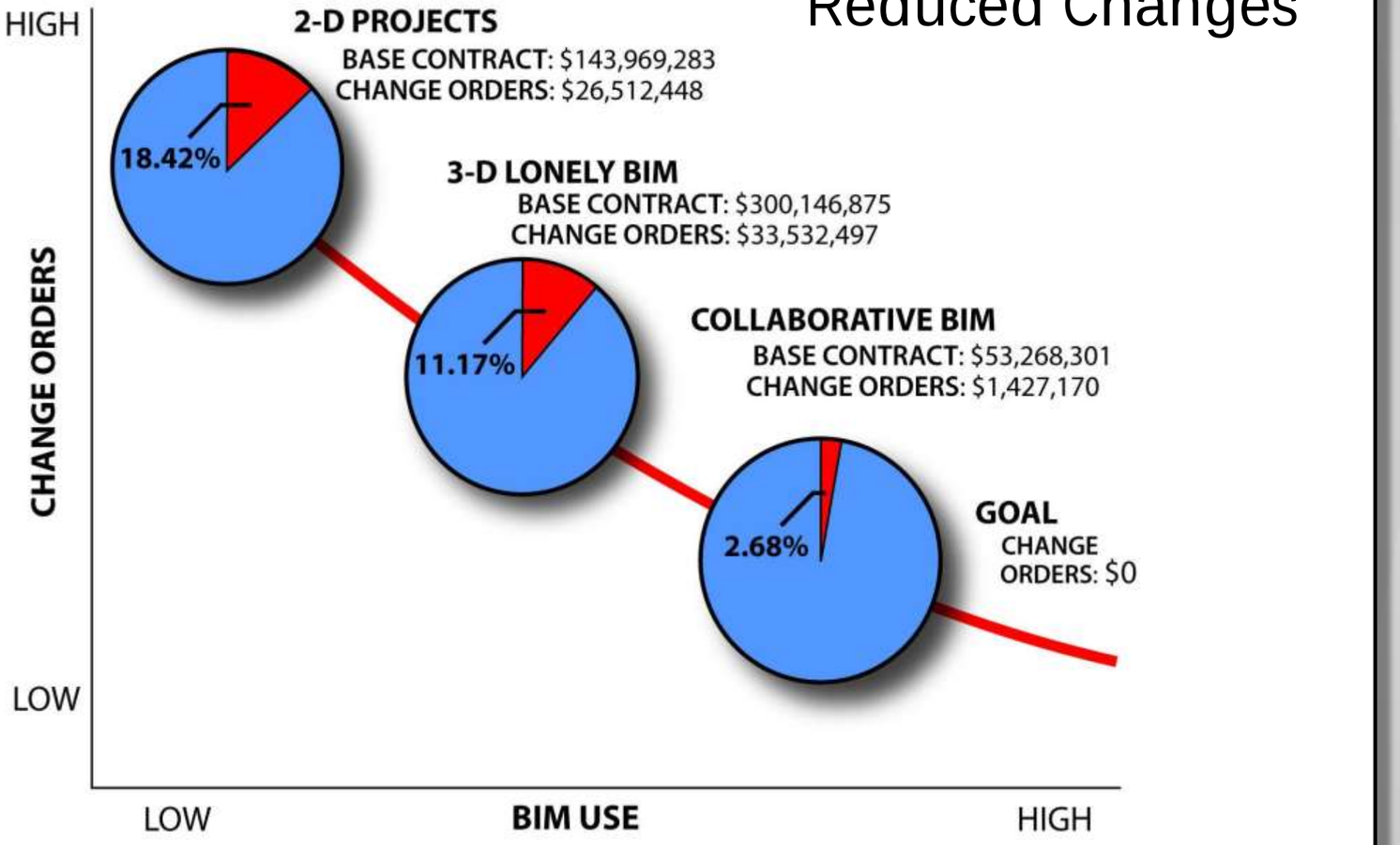
在扫描中整合模型管理变更

Model directly in the scan to manage daily design changes

全球施工企业的BIM应用
Contractors BIM Use Globally



显著提升效率并节省成本
Productivity and cost saving benefits are very strong



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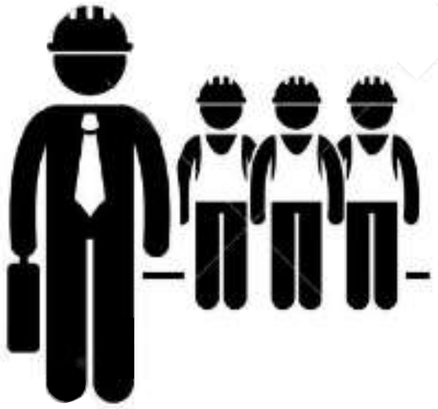

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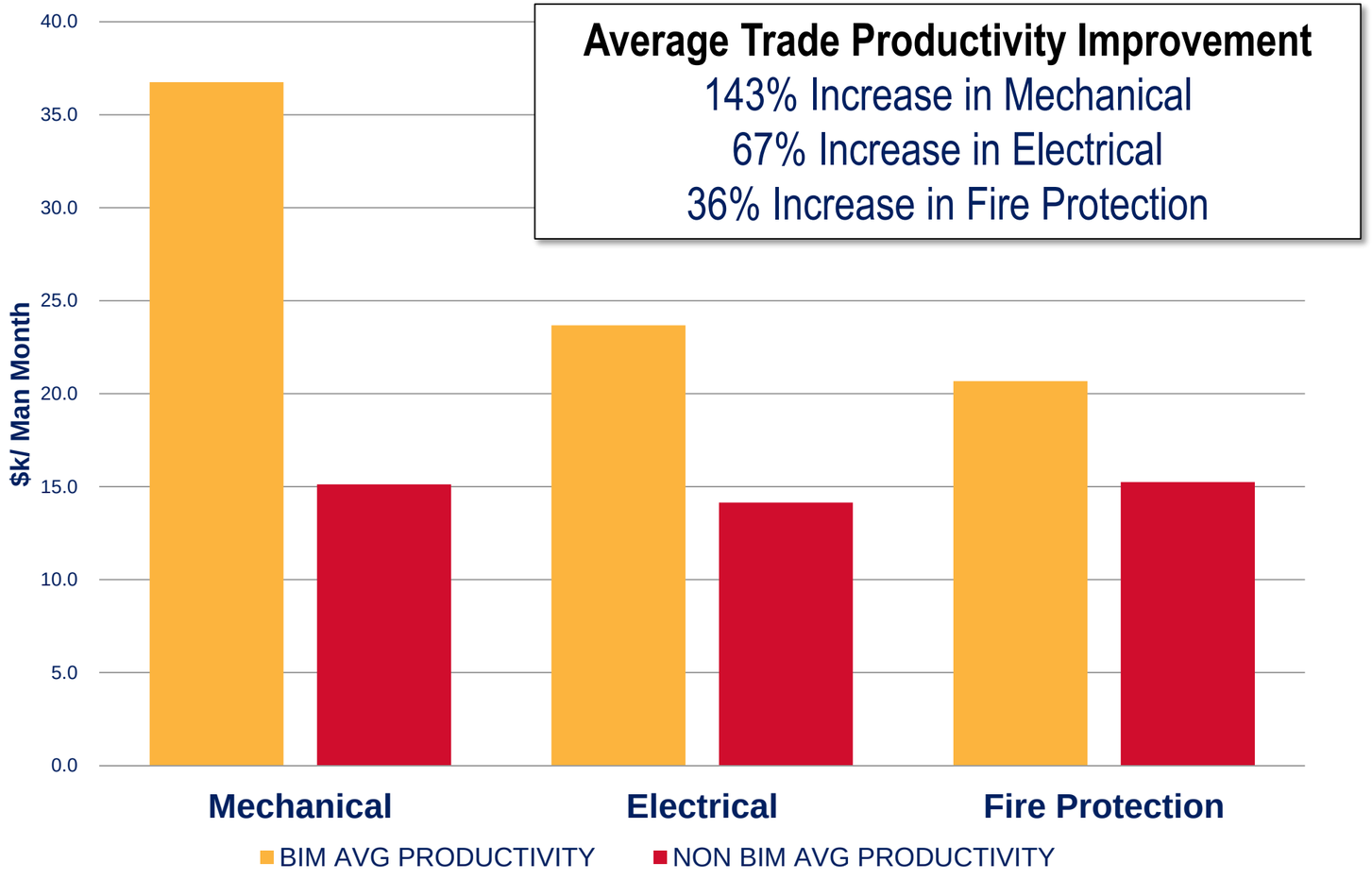

日程
Agenda

全球BIM和基于模型的流程发展关键趋势。
Key trends in the advance of BIM and model-based processes throughout the world

中国BIM应用价值研究报告的亮点
Highlights from BIM research in China

中国BIM应用价值研究报告
The Business Value of BIM in China

2015年5月发布
Released May 2015

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中国BIM应用价值研究报告
The Business Value of BIM in China

总计350位用户参与调研:

- 144位来自施工企业
- 206位来自设计企业
- 296位BIM使用者及54位非使用者
- 来自大型，中型及小型企业的用户基本相当
- 分布于中国的各个地域
- 至少60%的用户参与建筑项目 (与工业及基础设施项目相比)

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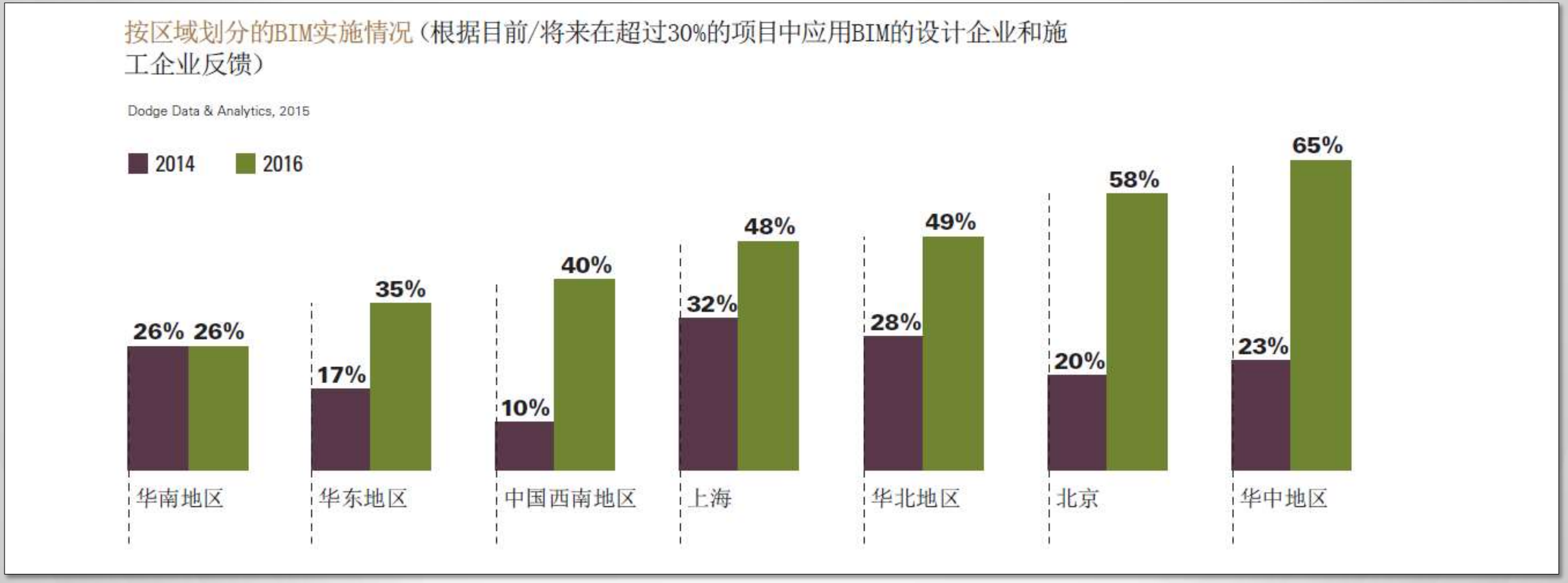
中国BIM应用价值研究报告
The Business Value of BIM in China

预测: BIM应用率高/极高的企业未来两年内的增长趋势

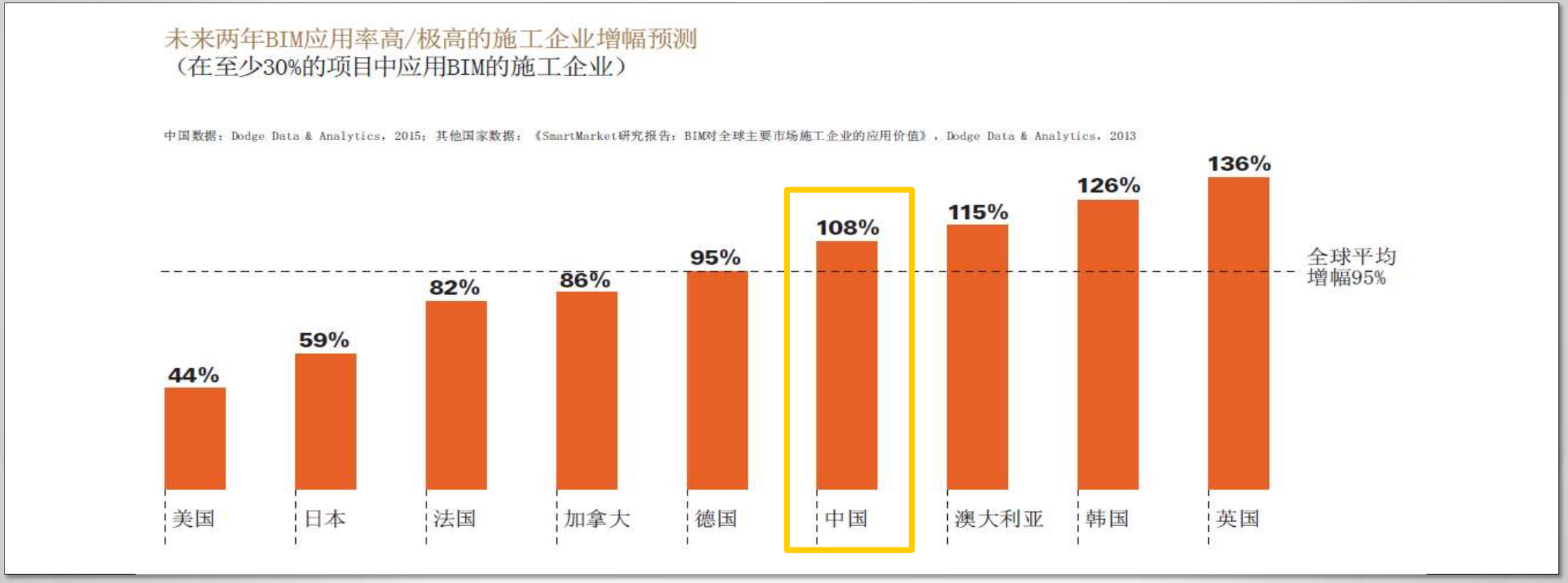
除华南地区之外，几乎所有的地区都将呈现明显增长



中国BIM应用价值研究报告
The Business Value of BIM in China

预测: BIM应用率高/极高的施工企业增长

中国施工企业的增长超过全球的平均水平

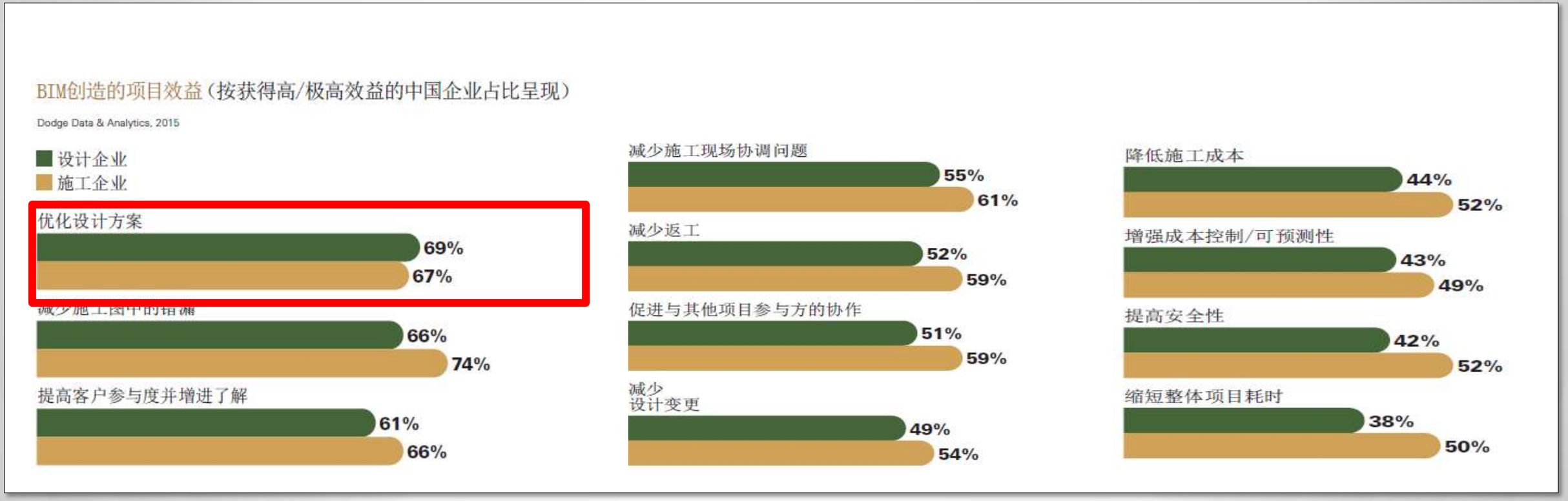


Dodge Data & Analytics

中国BIM应用价值研究报告
The Business Value of BIM in China

所有的项目效益都很显著

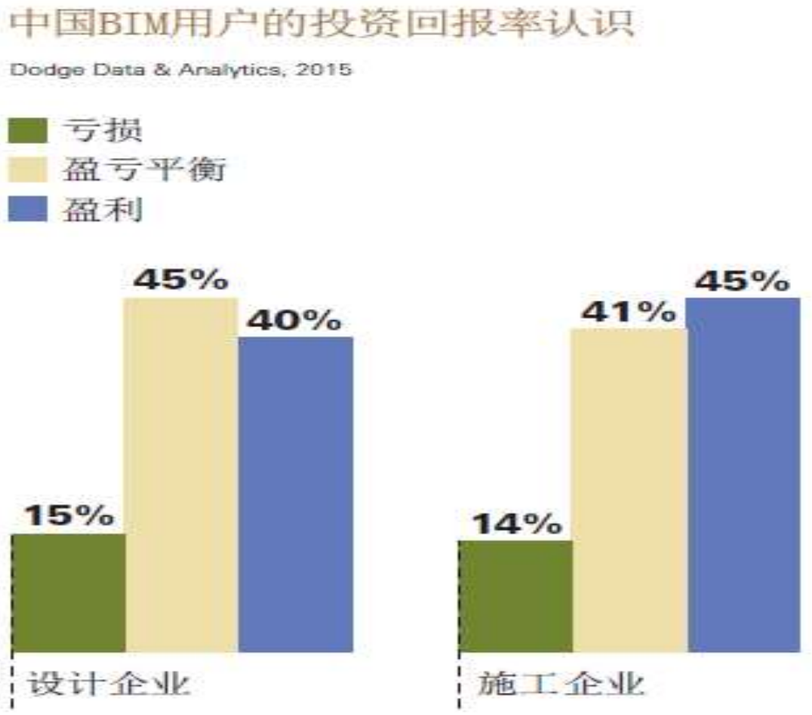
Very strong results for Project Benefits by all parties



中国BIM应用价值研究报告
The Business Value of BIM in China

仅有一小部分设计企业和施工企业认为投资回报率为负

Only a small percentage of architects and contractors report a negative ROI



中国BIM应用价值研究报告
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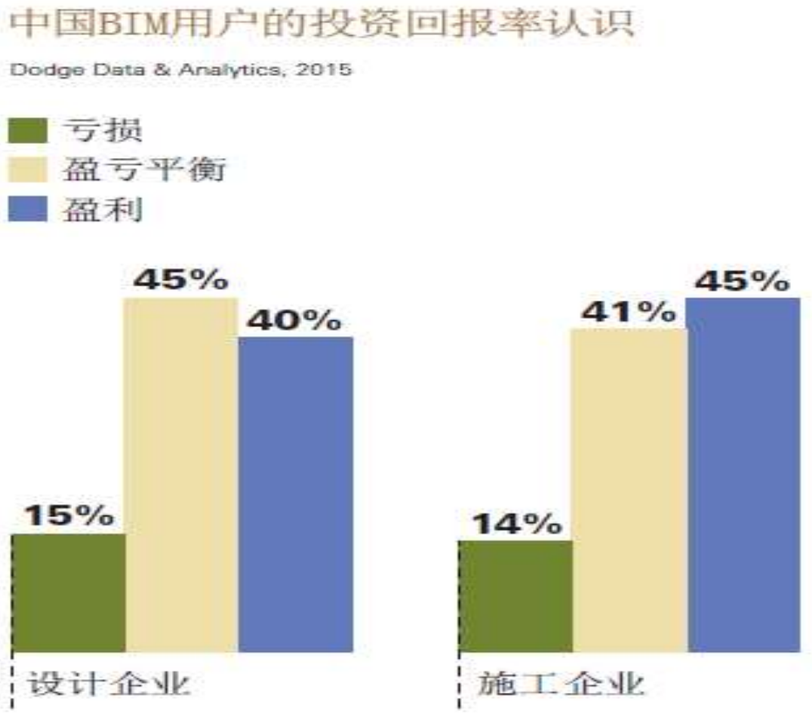
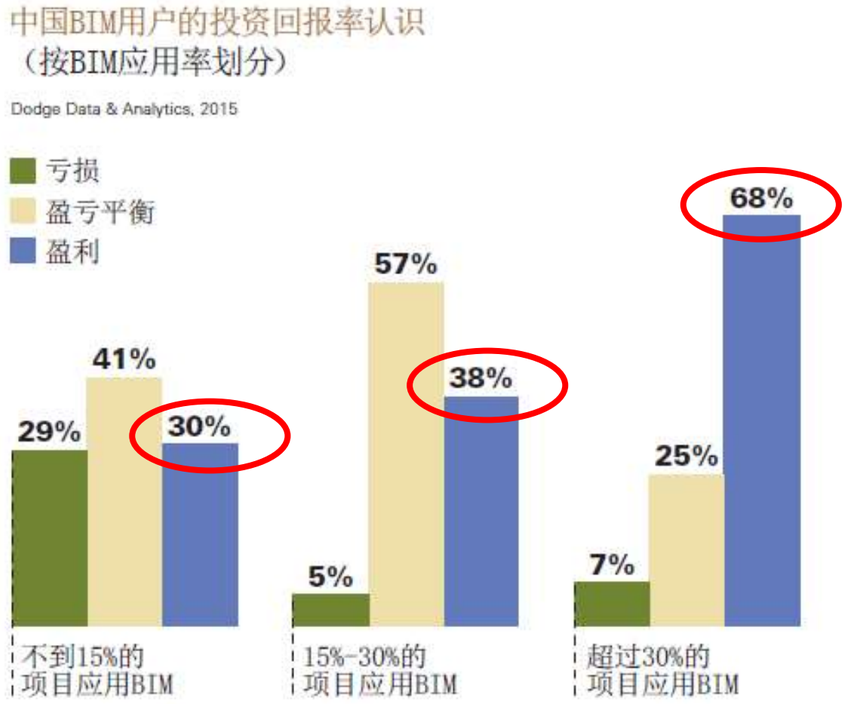
在BIM应用率较高的企业中投资回报率明显较高

ROI is much better for firms with high level of BIM implementation





中国BIM应用价值研究报告
The Business Value of BIM in China

如何提升BIM的效益

What do users need to improve their benefits from BIM?

设计企业的5大BIM需求

1. 加强不同的软件之间的数据互联互通
2. 清晰定义BIM项目的交付标准
3. 增强BIM软件的功能
4. 更多拥有BIM技能的员工
5. 更多证明BIM的应用价值的数据

施工企业的5大BIM需求:

1. 更多拥有BIM技能的员工
2. 更多的具备BIM技能的企业
3. 增强BIM软件的功能
4. 更多的业主对BIM的需求
5. BIM数据与移动设备应用的整合

中国BIM应用价值研究报告
The Business Value of BIM in China

在全球范围上来看，中国在BIM的应用和普及上取得了明显的进展。

报告中的更多内容:

- 数据
- 案例
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