

Architecture as a Platform for the New Urban Agenda

Course Number (TH403)

6/21/2018 9:45 AM - 11:15 AM

Learning Units: 1.5 Lus HSW GBCI RIBA

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Questions related to specific products and services may be addressed at the conclusion of this presentation.

Acknowledgements/Credits

Speakers:

Stephen R. Hagan, FAIA

Finith E. Jernigan II, FAIA

Kimon Onuma, FAIA

With additional material from:

Kenneth Walton - National Capital Planning Commission

SEPS2BIM.org - Department of Veterans Affairs, and Department of Defense,
Defense Health Agency

Speakers List



- Stephen R. Hagan, FAIA
President | CEO, Hagan Technologies, LLC, Reston, VA



- Finith E. Jernigan II, FAIA
President, Design Atlantic Ltd, Salisbury, MD



- Kimon Onuma, FAIA
President, Onuma, Inc., Pasadena, CA

Course / Learning Objectives

1. Learn how to increase the value of the built environment in terms of safety, occupant comfort, and well-being by using data feedback for human-centered and experiential design processes.
2. Visualize real-time participation and understand the effects of project elements on the environment.
3. Learn how to analyze and understand design access solutions and respond to site issues that come with critical building systems, materials methods, and design and construction processes.
4. Explore how to access owner live data to amass fact-based design, inform the conceptual design process, and improve projects' responses to site, environmental, and human needs.

ARCHITECTURE





ARCHITECTURE

AS A
PLATFORM

FOR THE NEW
URBAN
AGENDA



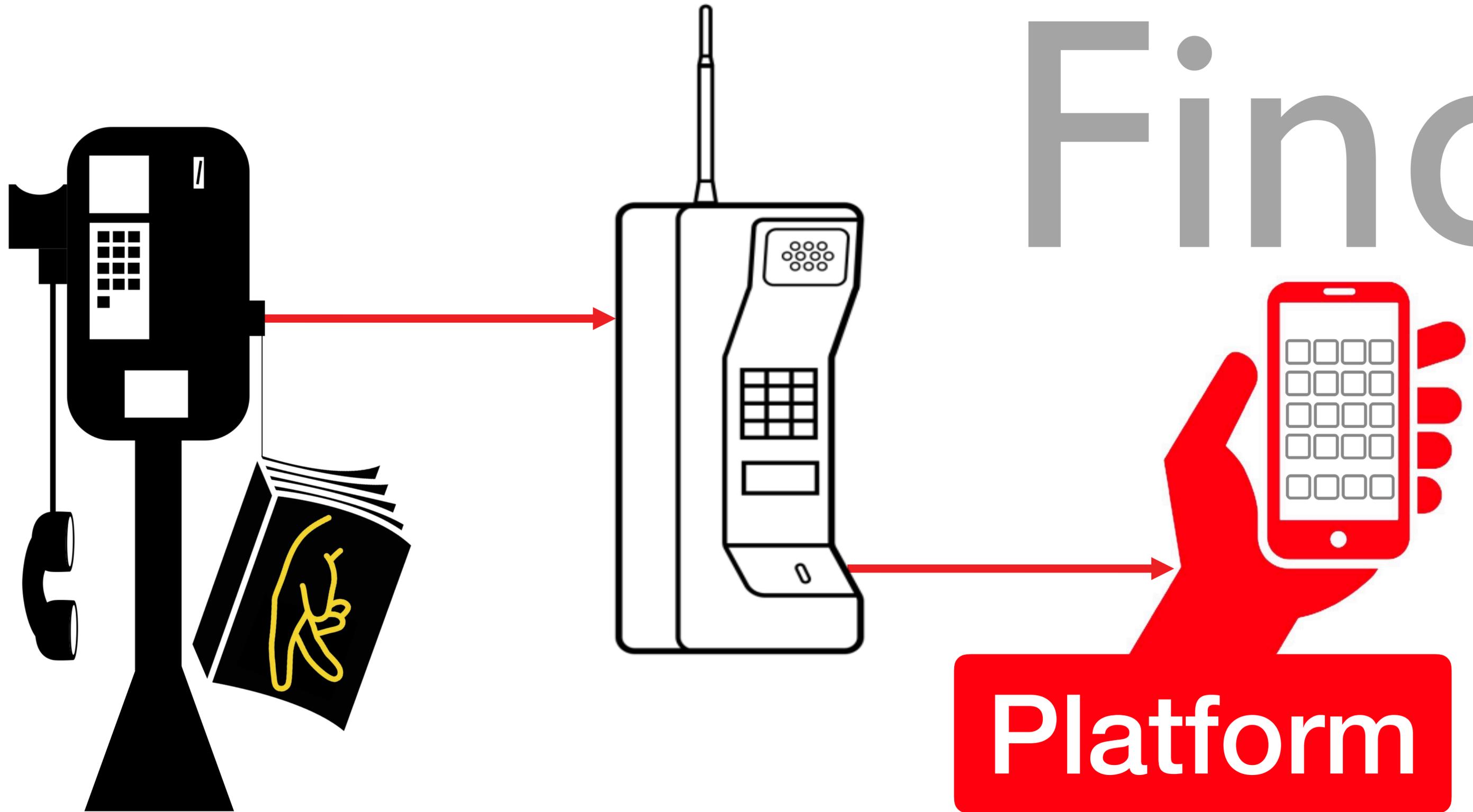
ARCHITECTURE

PART I
INTRODUCTION

AS A
PLATFORM

Kimon Onuma, FAIA

Find

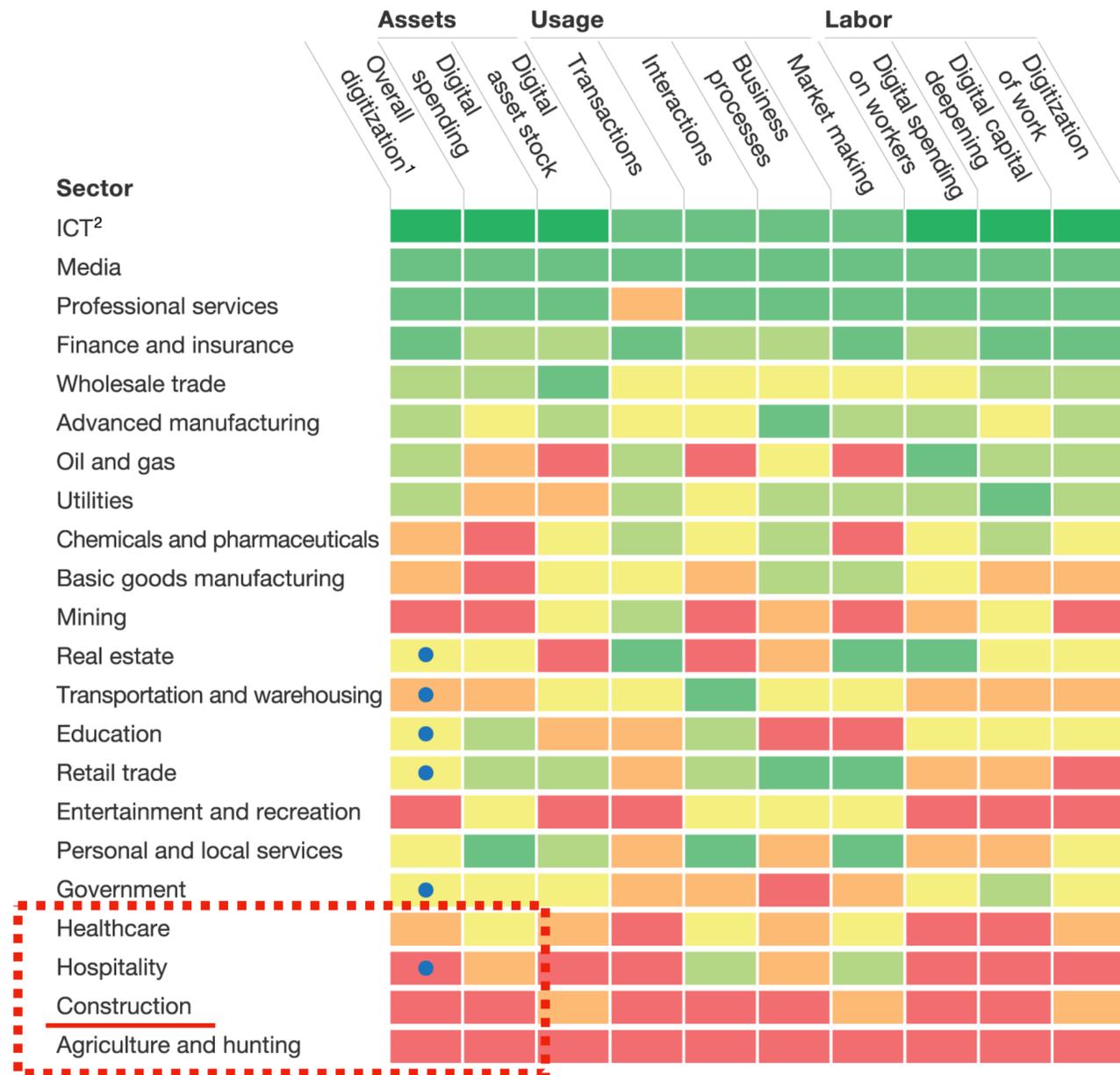


Platform

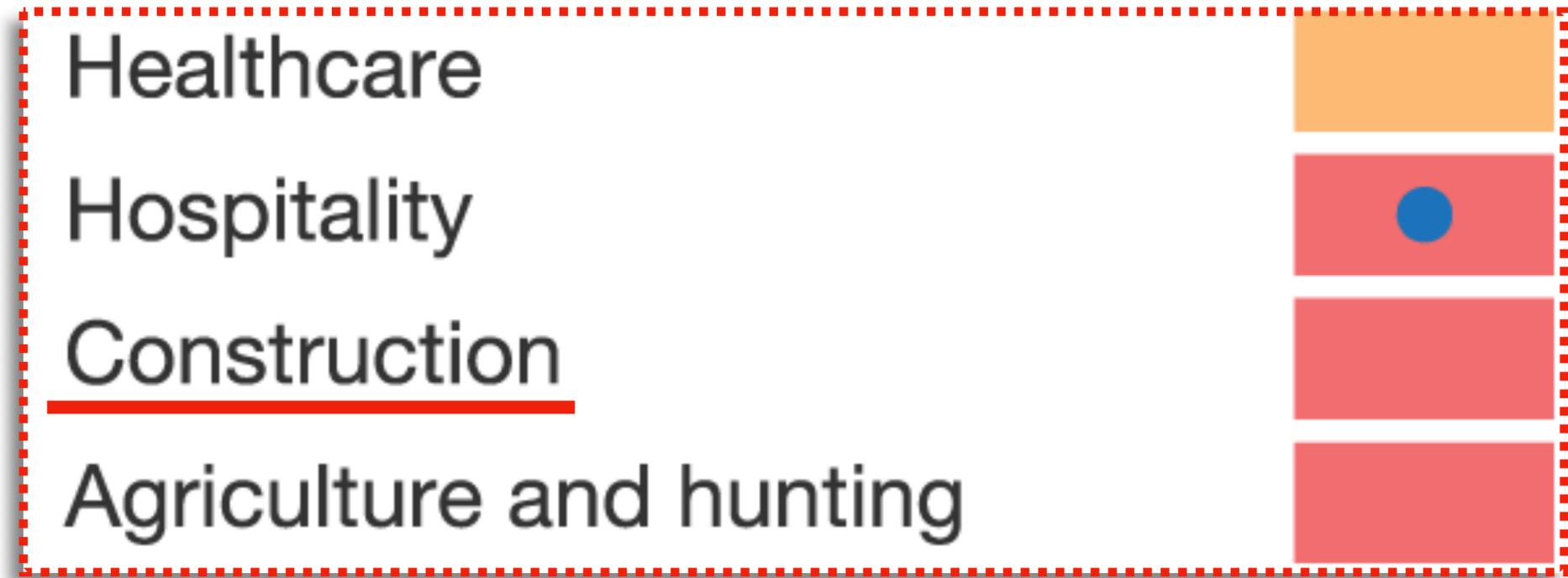
The construction industry is among the least digitized.

McKinsey Global Institute industry digitization index; 2015 or latest available data

Relatively low digitization  Relatively high digitization
 ● Digital leaders within relatively undigitized sectors



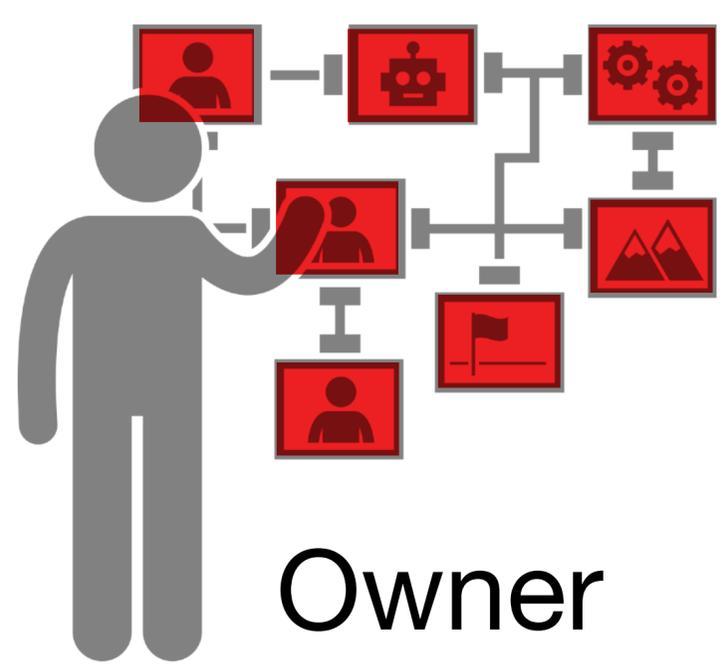
The construction industry is second from the bottom



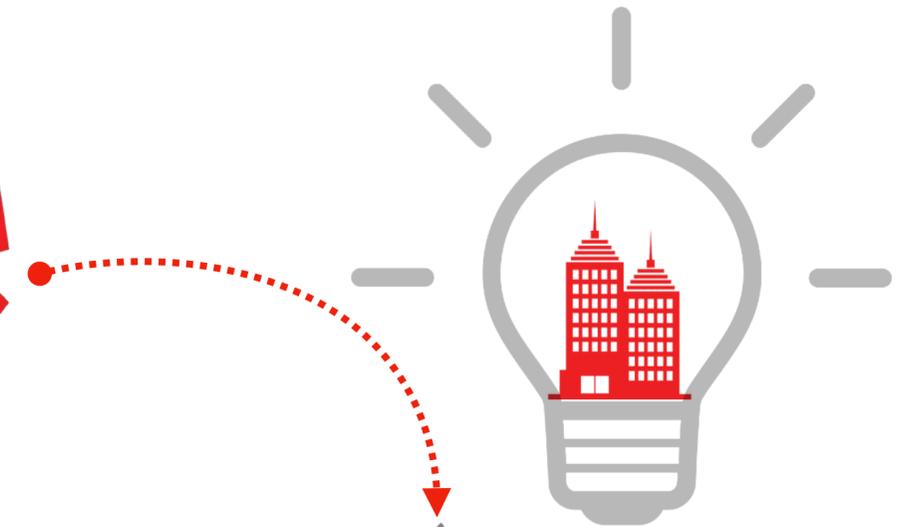
¹Based on a set of metrics to assess digitization of assets (8 metrics), usage (11 metrics), and labor (8 metrics).

²Information and communications technology.

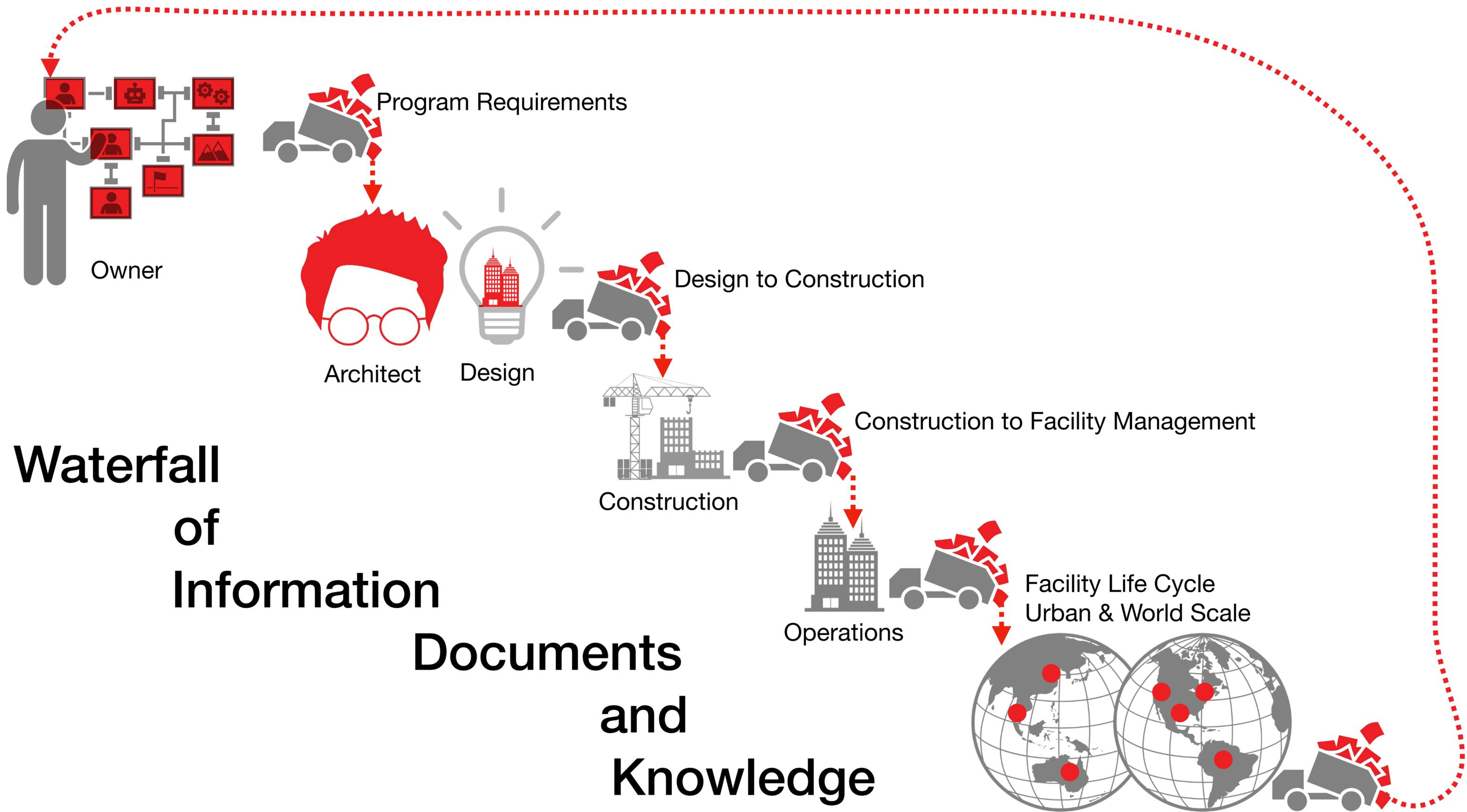
Source: AppBrain; Bluewolf; Computer Economics; eMarketer; Gartner; IDC Research; LiveChat; US Bureau of Economic Analysis; US Bureau of Labor Statistics; US Census Bureau; McKinsey Global Institute analysis

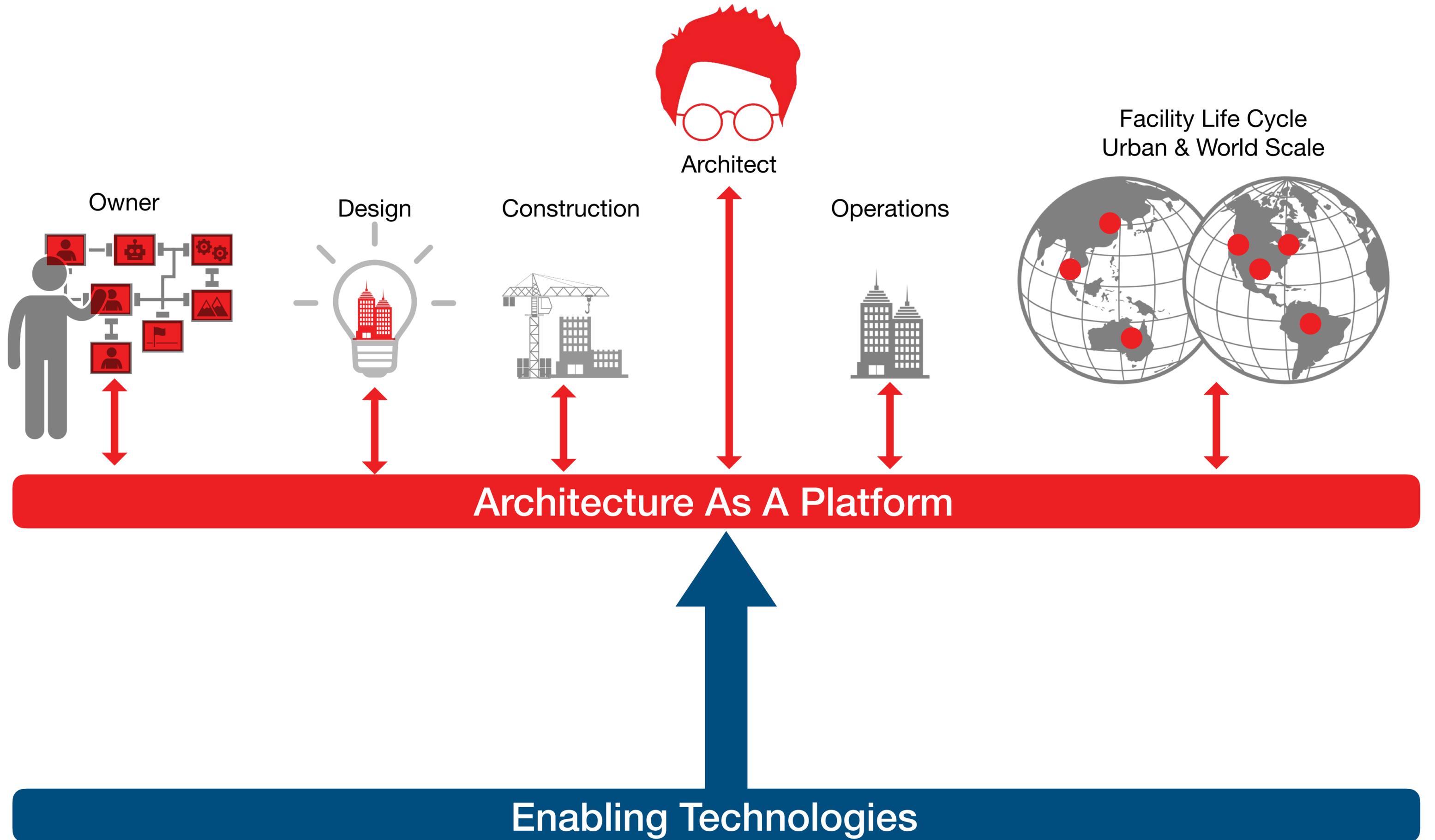


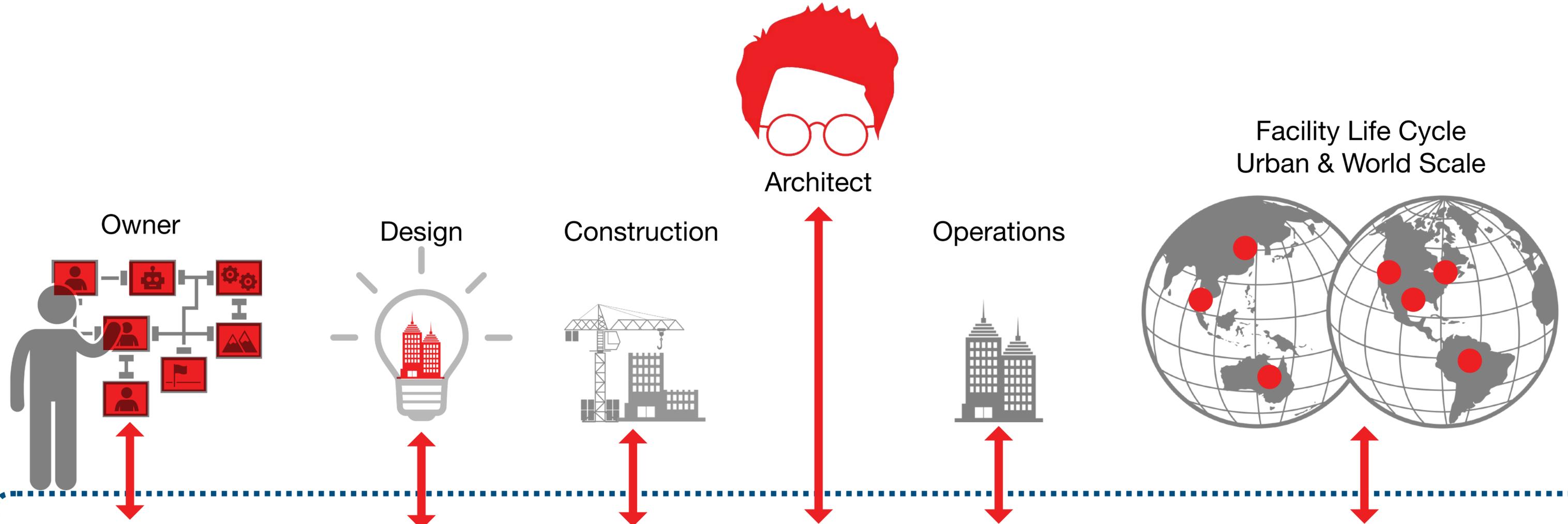
Owner



Architects







Architecture As A Platform

Owner Platform

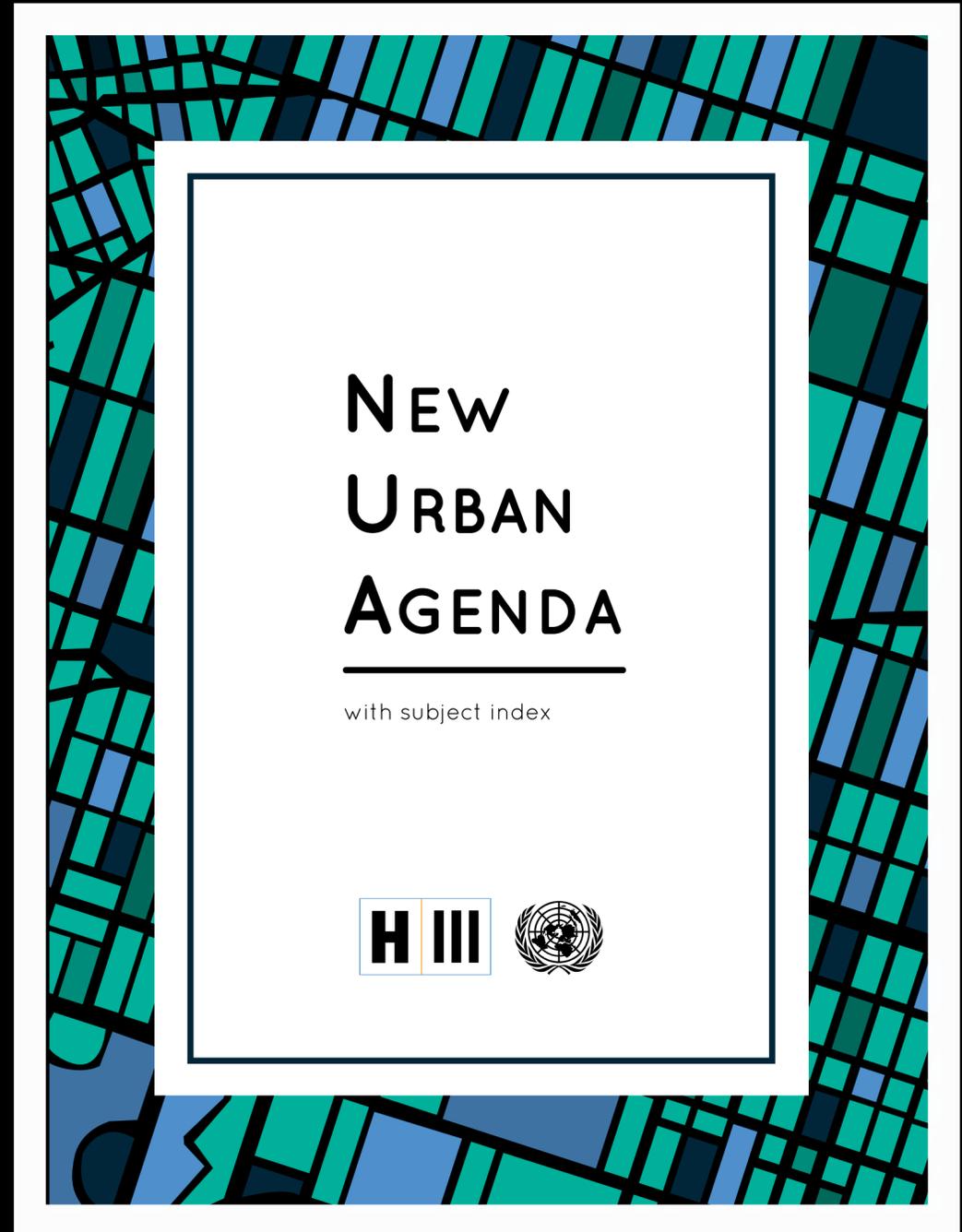
Contractor Platform

Operations Platform

New Urban Agenda Platform

Enabling Technologies

175 Points



66

**Smart
City**

44

**Urban Form
Infrastructure
Building
Design
Cost
Resource
Efficiencies**

126

**Science
Technology
Innovation
Knowledge
Sharing**

156

**Digital
Platforms**

158

**Data
Statistics**

157

**GIS
Data**

135

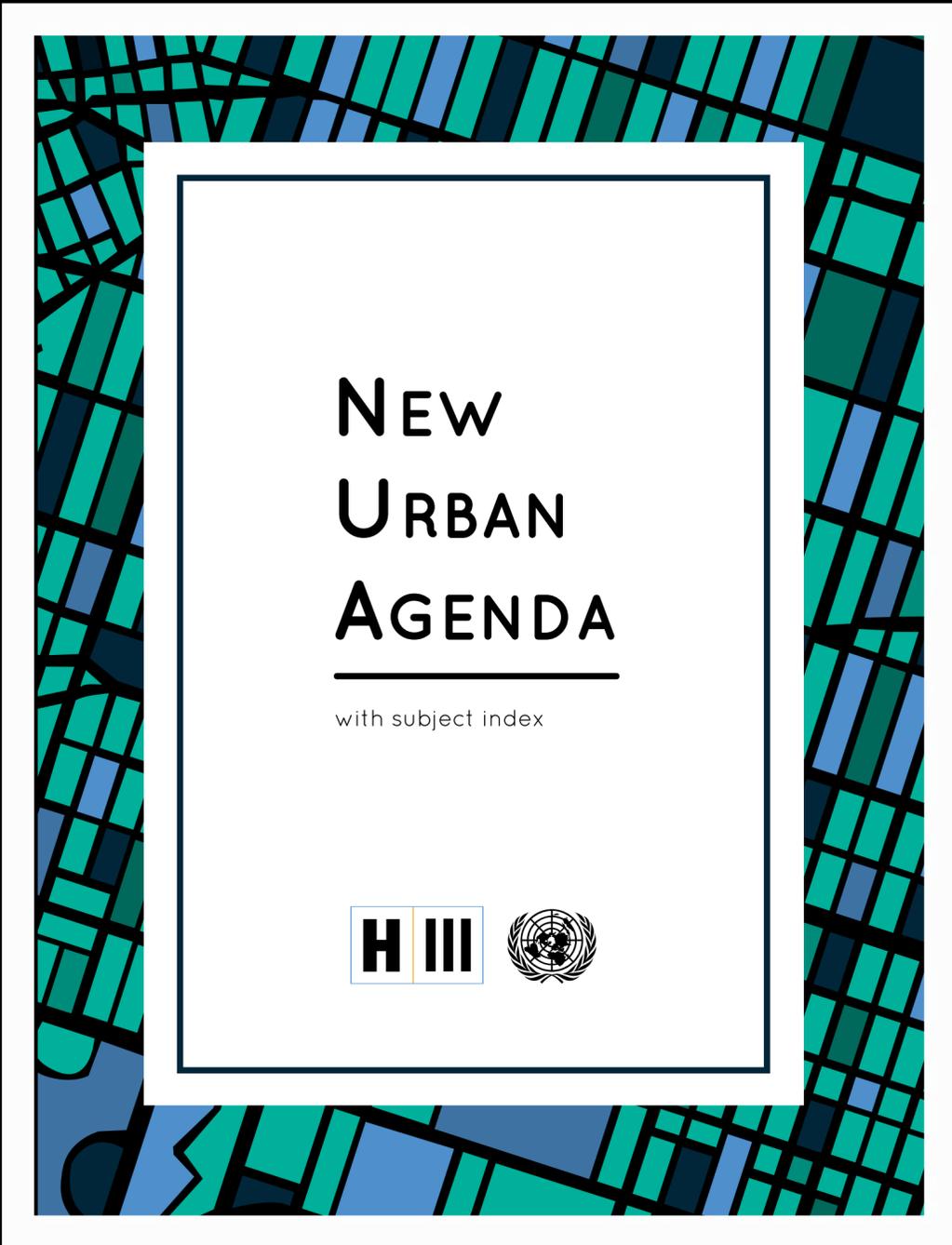
**Transparent
Systems
Financial
Transfers**

160

**Open
User
Friendly
Platforms**



for
the:



PART 2

Stephen Hagan, FAIA

HARNESS

THE TECHNOLOGY INNOVATION REVOLUTION

“ If you don’t change...you’re going to
perish”

“If you want to survive,
you’re going to change; if
you don’t, you’re going to
perish. It’s as simple as
that.” —*Thom Mayne,*
FAIA, 2005 Pritzker Prize
Winner



A Tsunami of Game Changing Innovations

Immersive Technologies

3D Printing

3D Reality Model

3D / Laser Scanning

4D Scheduling

Augmented Reality | Virtual Reality

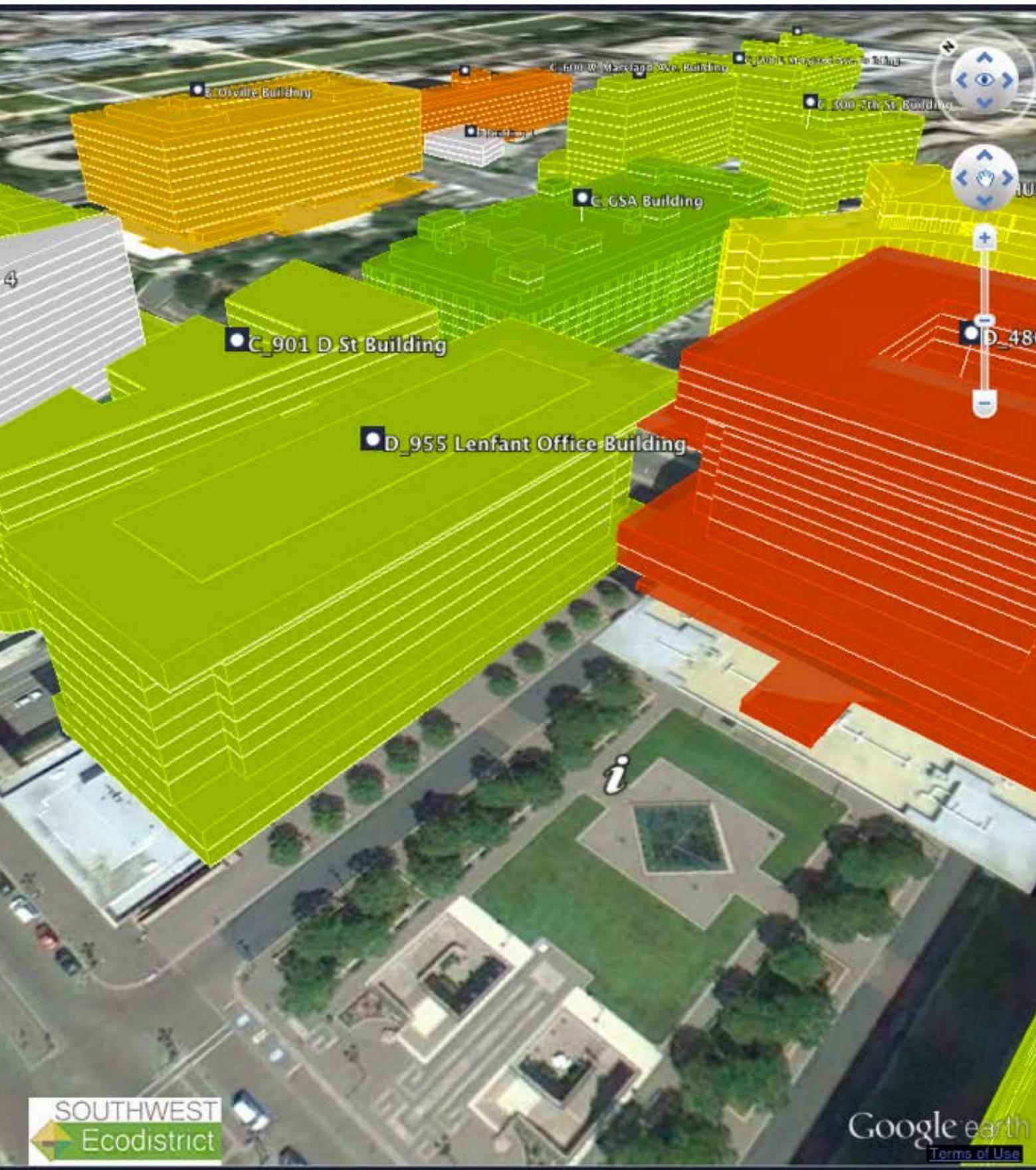
Reality Capture



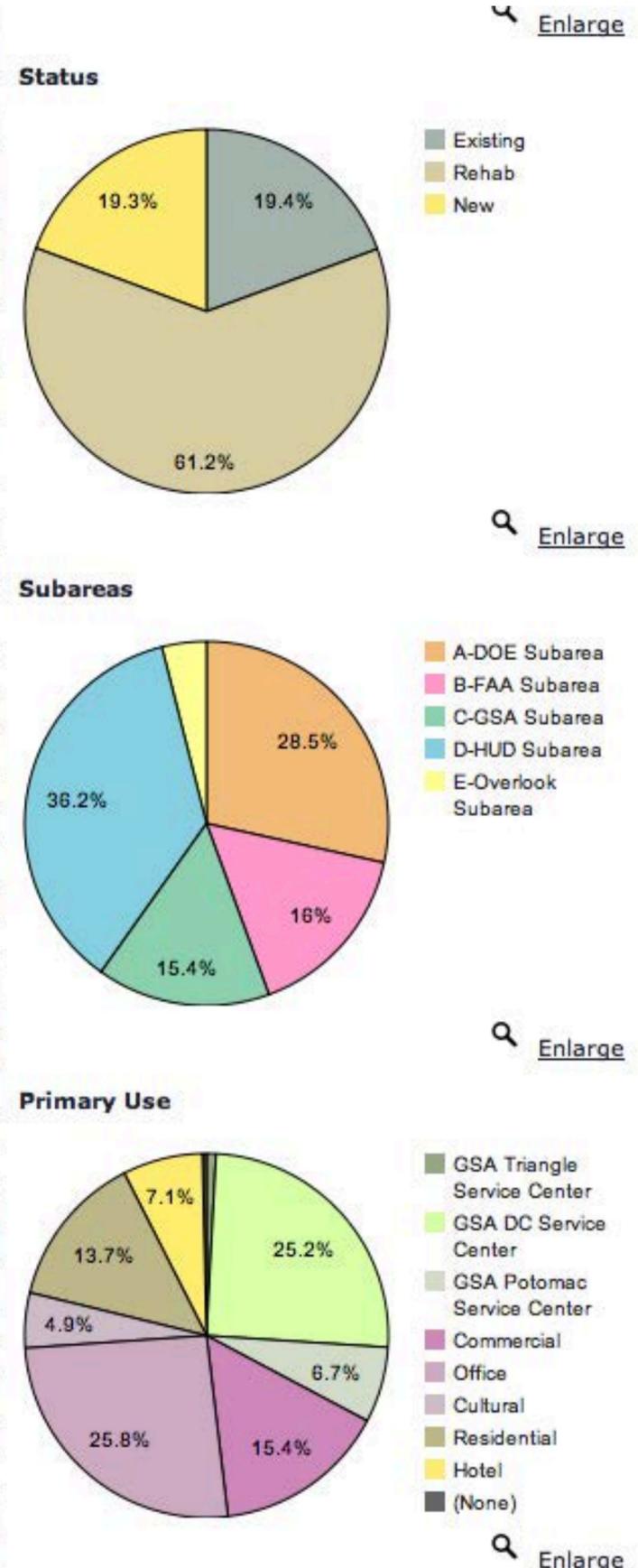


The SW Ecodistrict

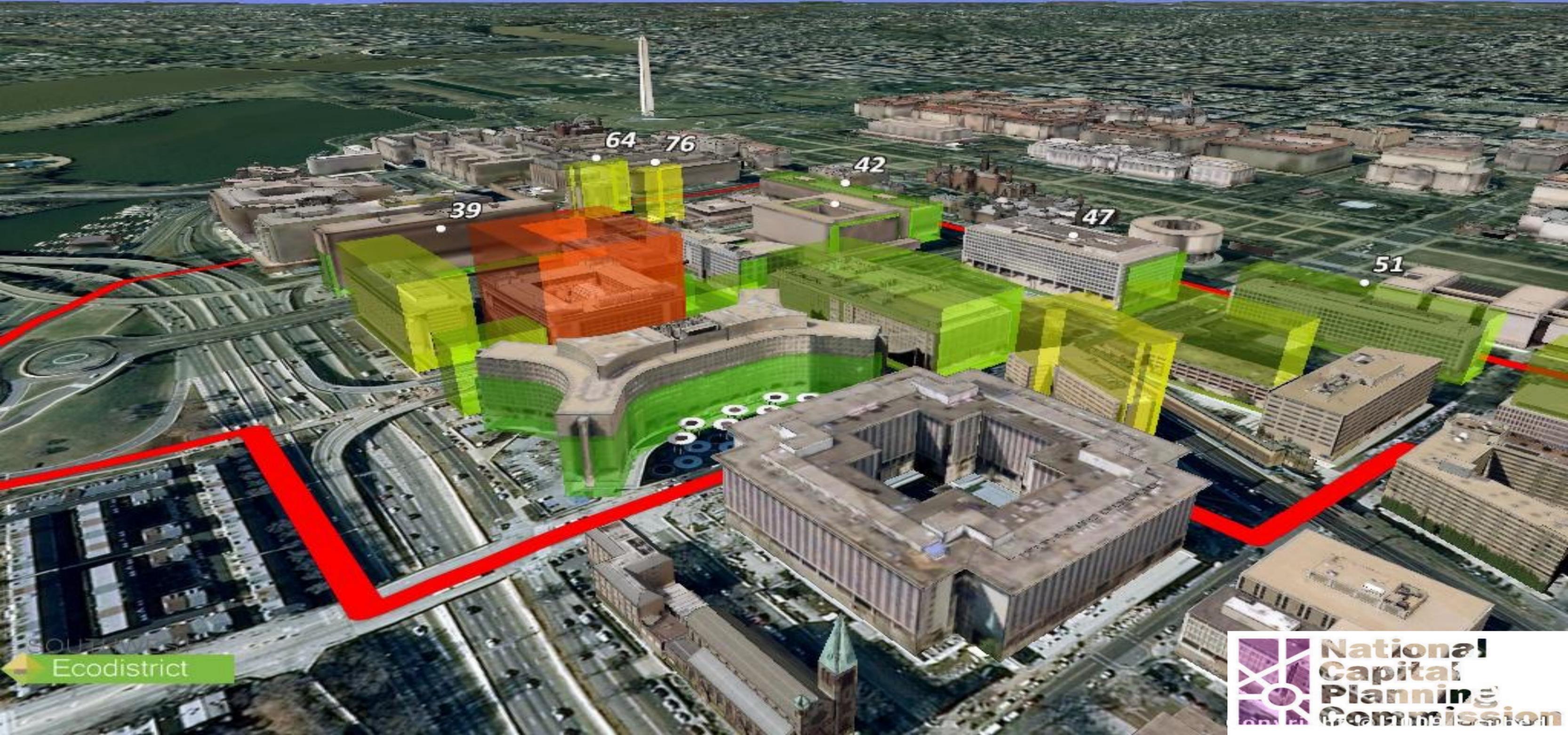
A VISION PLAN FOR A MORE SUSTAINABLE FUTURE



Building Information	
Parking indoor	1,972
Building Areas	
Gross Calculated	13,956,342 sqft
Reported Gross	6,418,251 sqft
Reported Building Rentable	4,439,870 sqft
Reported Usable	2,720,799 sqft
Building Occupancy	
# of Hotel Rooms	418
Occupancy number (reported per building)	27825
Utilities Summary	
Electricity Use(kWh / Year)	227,969,750
Renewable Electricity Use (kWh/Year)	2,426,820
Energy Use (kBtu/Year)	1,196,162,421
Steam (MLB/Year)	279,242
Water (Gal/Year)	136,196,515
Natural Gas (CUFT/Year)	6,341,140
Waste Water (Gal/Year)	209,345,125
Solid Waste (Lbs/Year)	20,812,692
Recycling (Lbs/Year)	159,479
O & M Cost Summary	
Custodial	\$34,472,164
Energy	\$39,775,574
Grounds	\$3,489,085
M&R	\$39,636,010
Management	\$33,355,657
Pest Control	\$1,814,324
Refuse	\$1,116,507
Road Clearance	\$139,563
Security	\$6,838,607
Telecom	\$3,489,085
Water / Sewer	\$5,442,973
Total Annual Cost	\$167,894,790
Site Irrigation	
Water Type	Potable



Rehab Scenario A



64

76

42

39

47

51

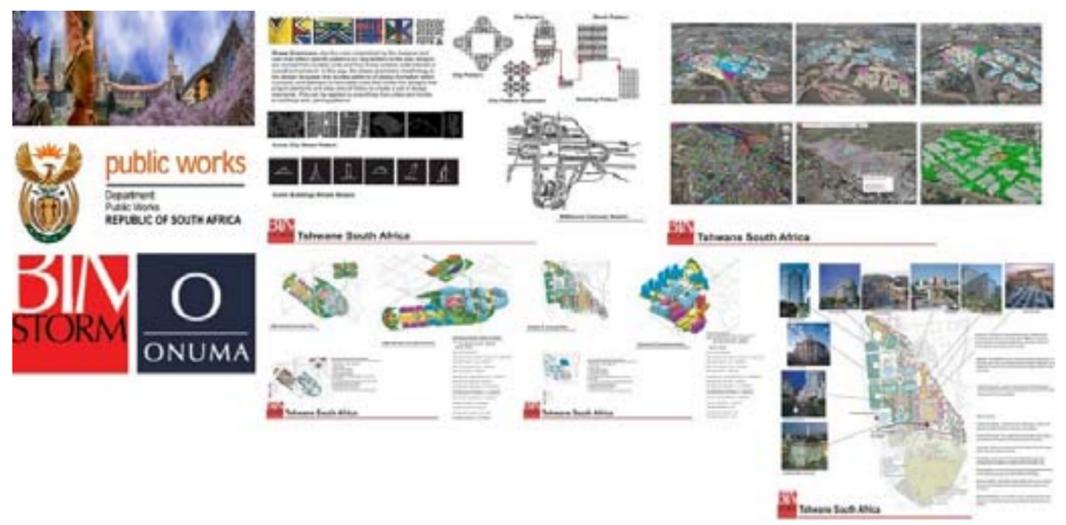
2008 BIMStorm Tshwane South Africa

2010

Southwest EcoDistrict

2011

EyeSite Augmented Reality



Crowdsourced Online Design Charrette

- Collaborative Problem Solving
- Virtual Design and Planning
- Smart Object Modeling
- Data Analytics
- Cloud Computing



District Wide Energy Modeling

- Collaborative Problem Solving
- Virtual Design and Planning
- Smart Object Modeling
- Data Analytics
- Cloud Computing



Virtual Viewshed Application

- Collaborative Problem Solving
- Virtual Design and Planning
- Sensors
- Cloud Computing

Smart Cities Tools and Technology

- Collaborative Problem Solving
- Virtual Design and Planning
- Smart Object Modeling
- Data Analytics
- Digital Sensors
- Cloud Computing



PA 2040 The Vision - A Connected City



Approach

Pennsylvania Avenue 2040



GLOBAL CITY TEAMS CHALLENGE

- 2016 Smart Parking**
 - Real-time parking occupancy rates
 - Crusing for parking measurement
 - Dynamic pricing
- Environmental Sensing**
 - Urban Living Labs
 - Community Monitoring
 - Urban Heat Island Mapping
- Enhanced Video Surveillance**
 - Increased backhaul capacity
 - Real-time control of cameras
 - Integration with Public Safety apps

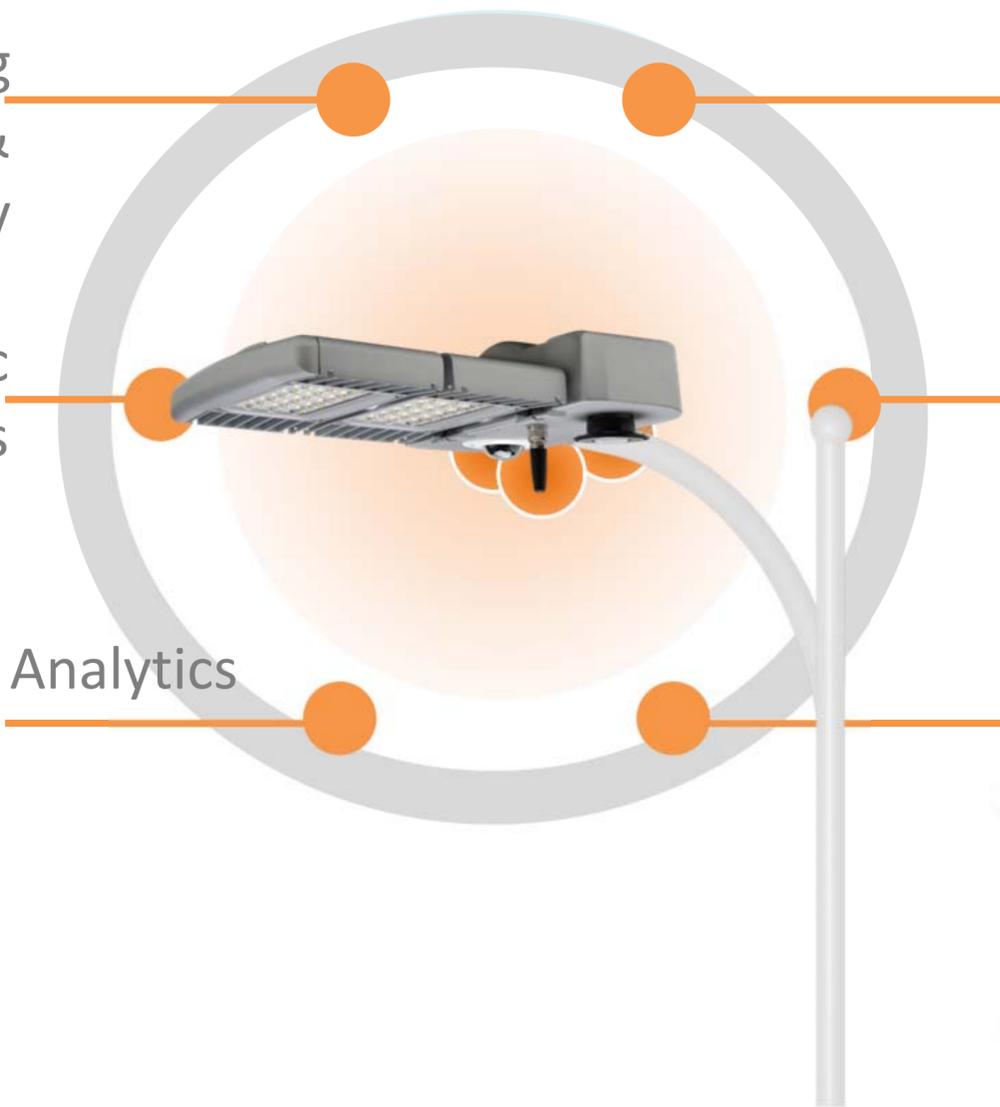


- 2015 Public Wi-Fi**
 - DCWiFi
 - Location Analytics
- Intelligent Street Lighting**
 - Sensor-based networked control
 - Motion Detection
 - Power Metering

Smart Lighting
Safety &
Security

Traffic
Analytics

Parking Analytics

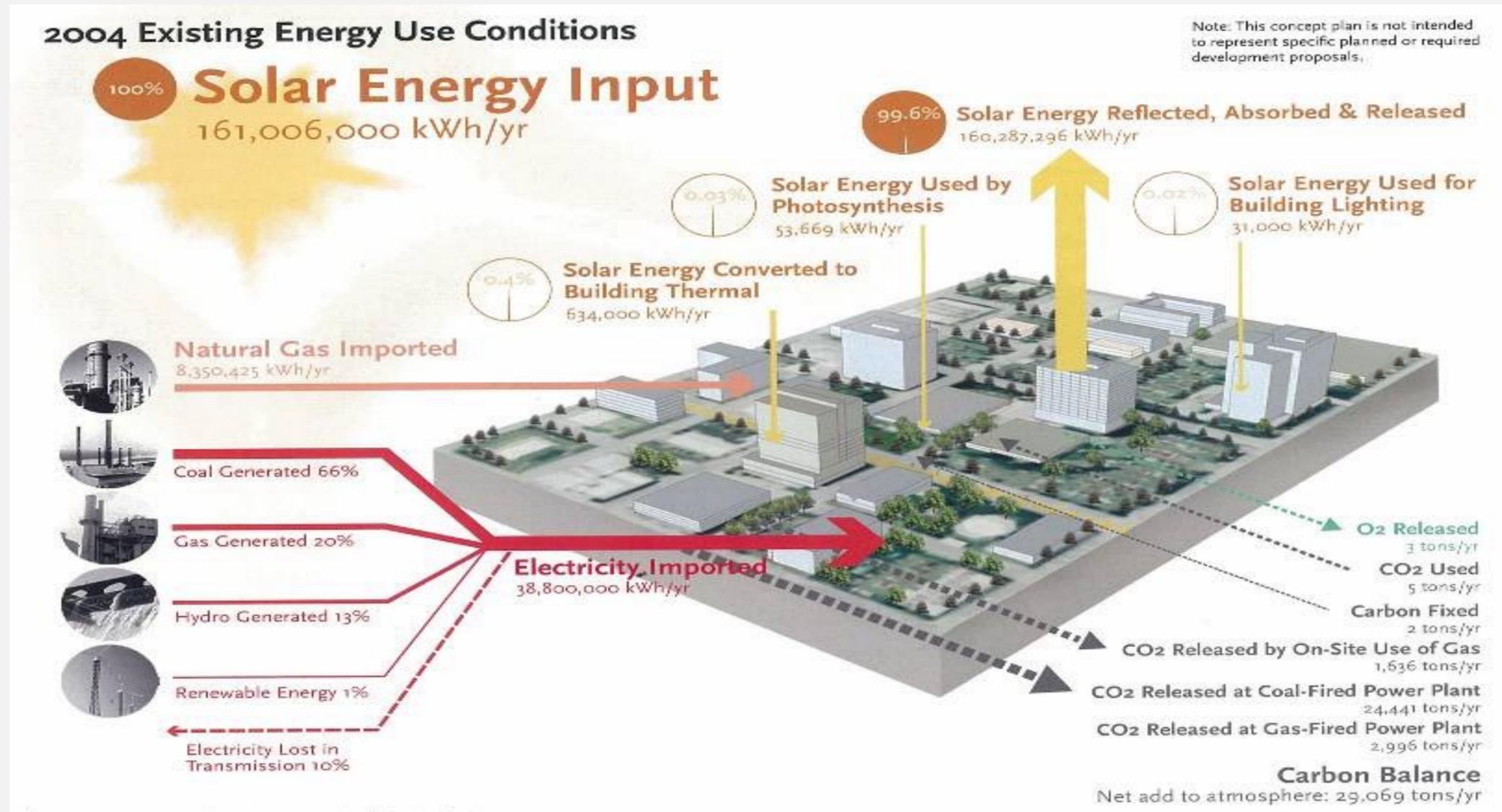


Plus 100's of
Additional
Apps
Public Wi-Fi /
Smart Cameras
Environmental
Sensors

Maintenance



Example of Energy Performance in an Eco-District



Single Building Energy Project Board

SOUTHWEST
Ecodistrict

GSA Regional Office Building General Services Administration



BUILDING DETAILS

Year: 2012
General Services Administration
715 A D Street, SW Washington DC
Employees: 4,700
3 floors
Green square footage: 445,400
3 acres
4,587 indoor and outdoor parking spaces
Not evaluated for historic status

Outdoor Temperature: 82 degree F to 10 degree F
Electrical Cost: \$ 1.6/kwh
Fuel Cost: \$ 1.54/therm



SOUTHWEST
Ecodistrict

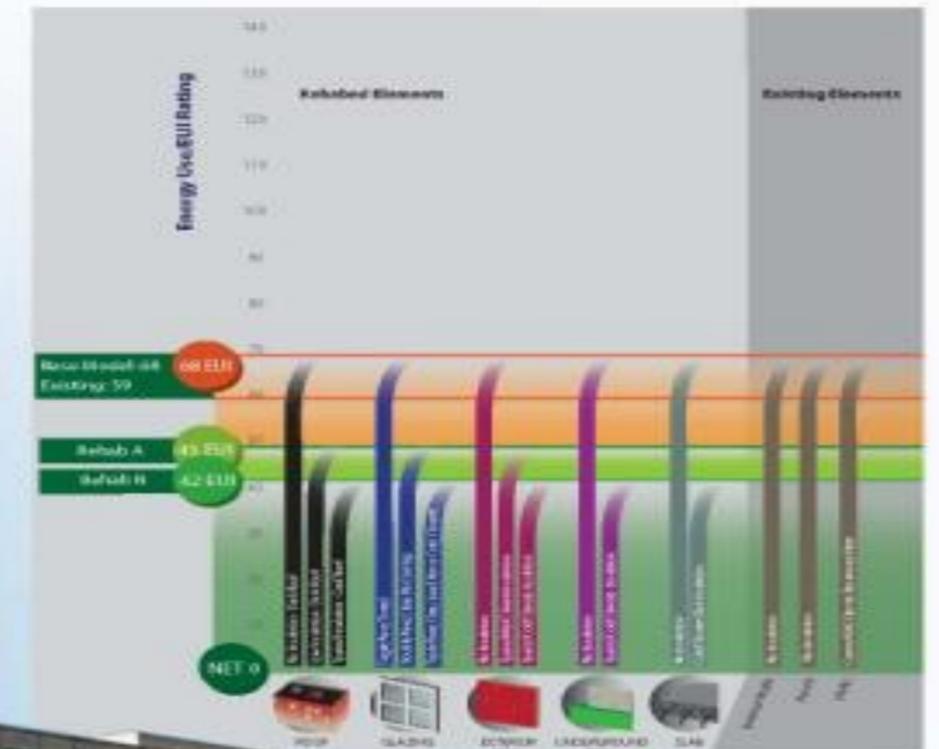
Forrestal Building Department of Energy



BUILDING DETAILS

Year: 2000
Department of Energy
2000 Independence Ave, SW Washington DC
7947 employees
31 floors
1,000,000 square feet
200,000 sq ft
BOMA 41 indoor and outdoor parking spaces
Not evaluated for historic status

Outdoor Temperature: 82 degree F to 10 degree F
Electrical Cost: \$ 1.6/kwh
Fuel Cost: \$ 1.54/therm



2015-17 McKinsey Global Institute Study



World Economic Forum



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

Industry Agenda

Shaping the Future of Construction A Breakthrough in Mindset and Technology

Prepared in collaboration with The Boston Consulting Group

May 2016

Executive Summary

1. Introduction: The Construction Industry – Time for a Transformation
 - 1.1. The industry is crucial to society, the economy and the environment
 - 1.2. The industry's future will be shaped by a number of megatrends
 - 1.3. The industry must also confront internal challenges
 - 1.4. The industry is ripe for and capable of transformation
2. Companies as the Spearhead of Transformation
 - 2.1. Technology, materials and tools
 - 2.2. Processes and operations
 - 2.3. Strategy and business model innovation
 - 2.4. People, organization and culture
3. The Industry As a Whole Needs to Drive Transformation
 - 3.1. Industry collaboration
 - 3.2. Joint industry marketing
4. Government Needs to Encourage and Support this Transformation
 - 4.1. Regulation and policies
 - 4.2. Public procurement
5. The Way Forward

UK Construction 2025



Our vision for 2025

Working together, industry and Government have developed a clear and defined set of aspirations for UK construction.

Lower costs

33%

reduction in the initial cost of construction and the whole life cost of built assets

Faster delivery

50%

reduction in the overall time, from inception to completion, for newbuild and refurbished assets

Lower emissions

50%

reduction in greenhouse gas emissions in the built environment

Improvement in exports

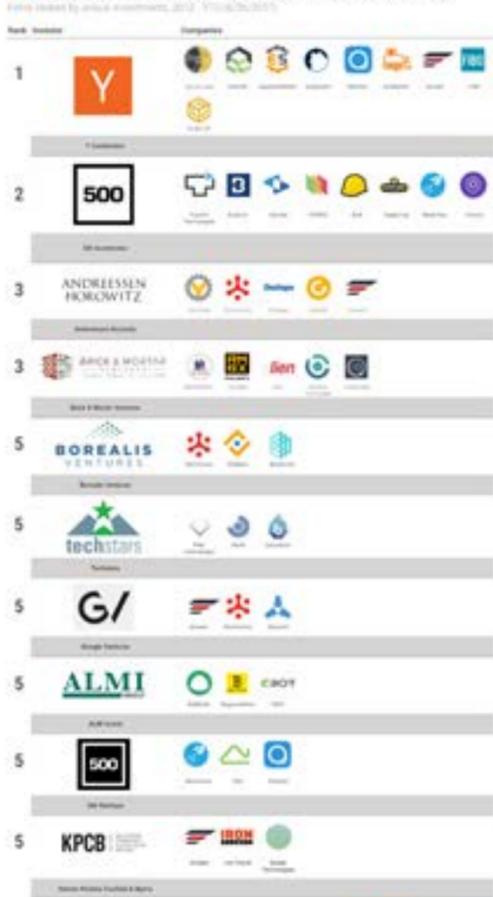
50%

reduction in the trade gap between total exports and total imports for construction products and materials

Huge Investment is Happening NOW

Construction Tech | Smart Cities Tech | Cyber Tech

MOST ACTIVE CONSTRUCTION TECH INVESTORS



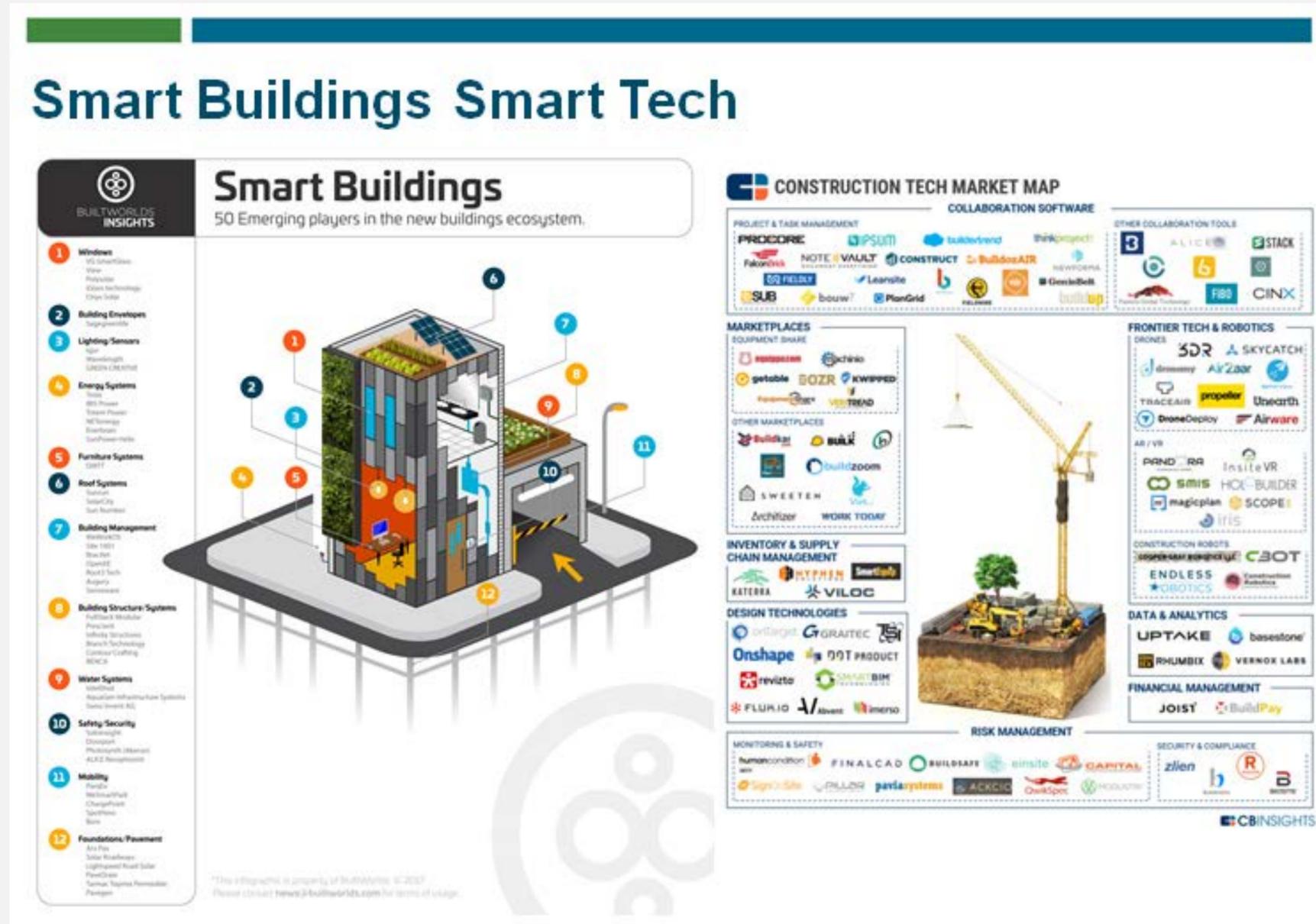
CYBERSECURITY'S NEXT STEP MARKET MAP: 80+ COMPANIES SECURING THE FUTURE WITH ARTIFICIAL INTELLIGENCE



COMPANIES BUILDING SMARTER CITIES



From Smart Buildings to Smart Cities



NIST Smart Cities IoT and Security

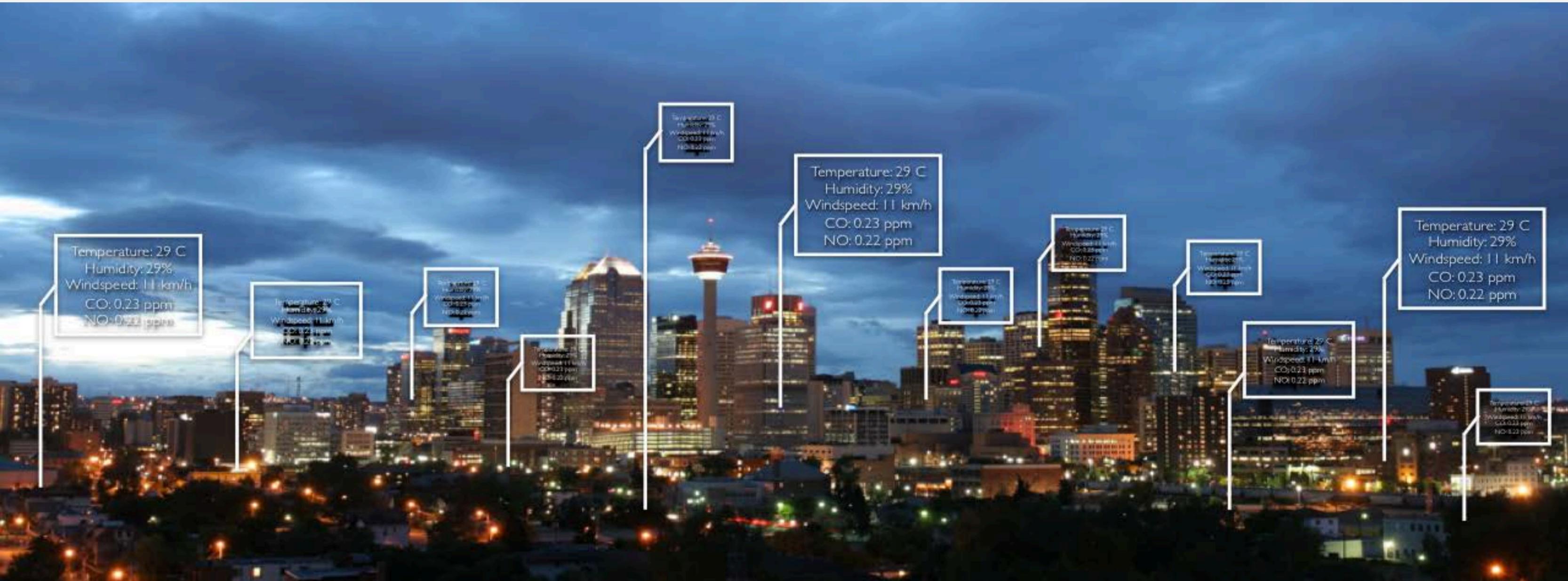
NIST Global City Teams Challenge to Focus on IoT Security in Smart Cities

Global City Teams Challenge participants will focus on smart city solutions to common urban issues, with a strong eye toward developing comprehensive security systems to safeguard those projects.

BY SKIP DESCANT / JANUARY 23, 2018



OGC Smart Cities Spatial Information Framework



Berlin 3D Atlas

Berlin Business Location Center

Berlin 3D - Downloadportal

search Help

export

Object selection Area selection

Click on one or more buildings to select them. This option is only available in 3D view.

0 buildings selected for export

Reset selection

E-mail address

Please enter an e-mail address. You will receive a download link when the process is complete.

model settings

Export Format: CityGML

Output textures: No

Realized by virtualcitySYSTEMS GmbH [Nutzungsbedingungen](#) | [Impressum](#)

Dieses Projekt wird aus dem Europäischen Fonds für Regionale Entwicklung (EFRE) gefördert.

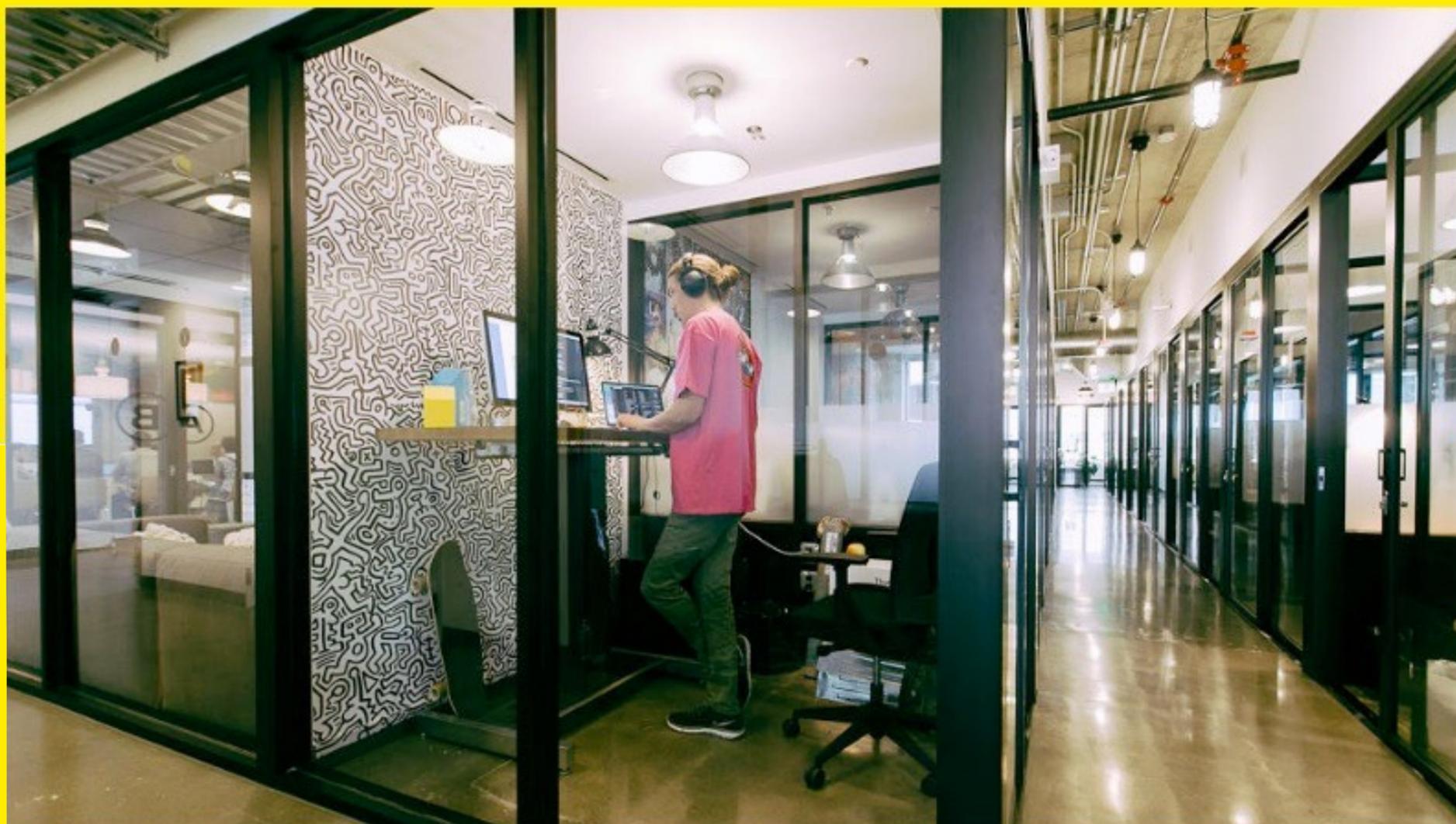
Im Auftrag der Senatsverwaltung für Senatsverwaltung für Wirtschaft, Technologie und Forschung

This project is from the Europäischen Fonds für Regionale Entwicklung (EFRE) promoted.

© Social Design for Economic Energy and Business 2016 | © OpenStreetMap contributors 2016

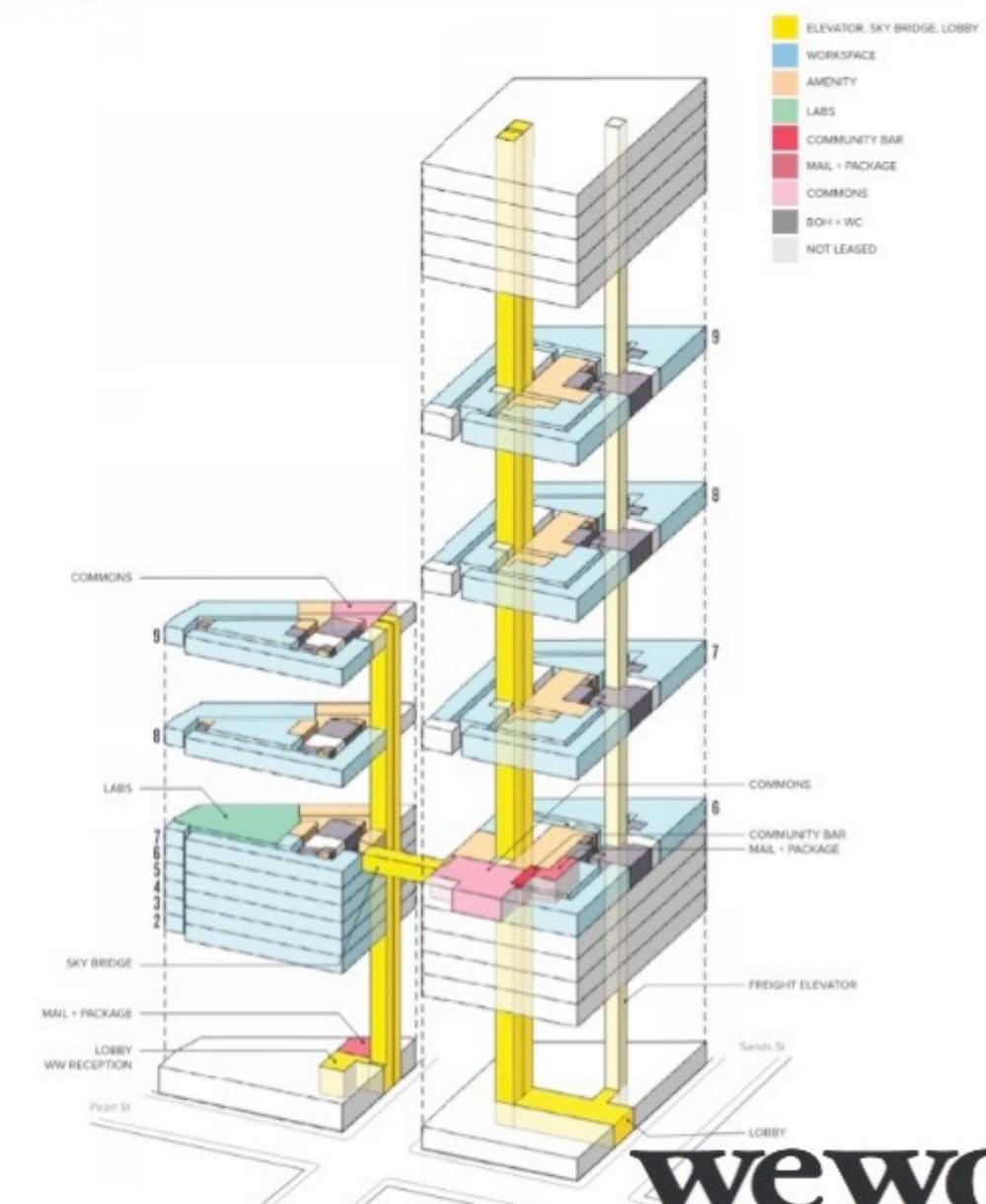
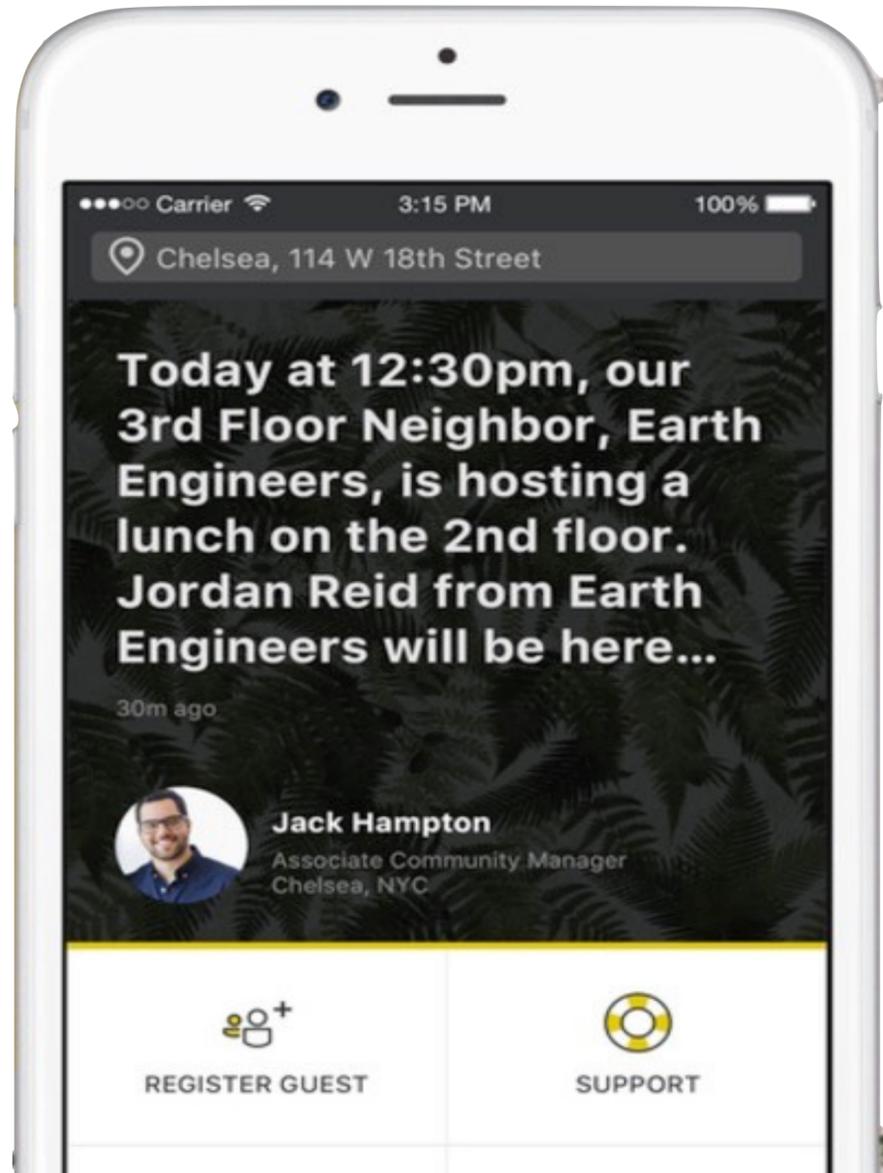
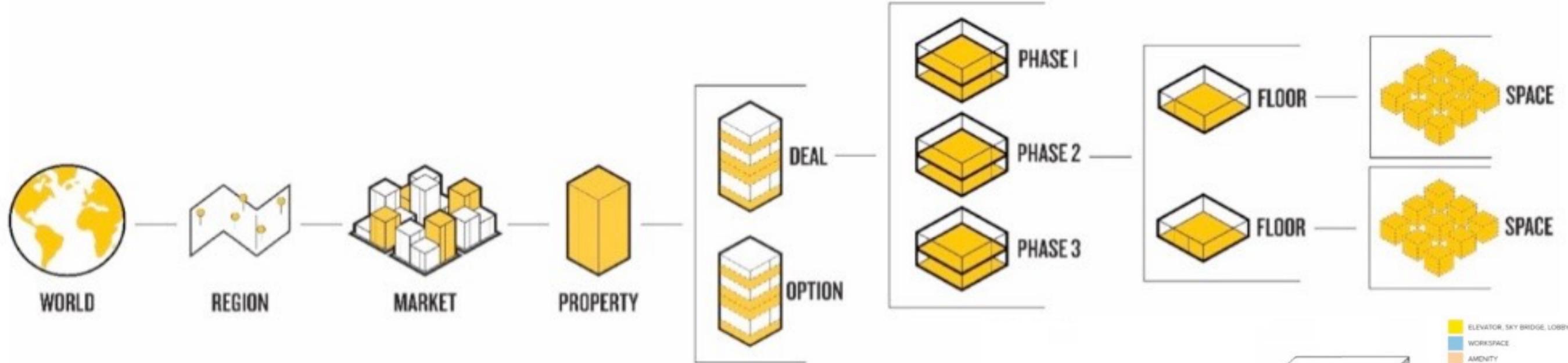
At WeWork, Humans Supply Data For Its "Giant Computers"

The coworking startup is using heat maps and beacons to make its real estate operating system even more efficient.

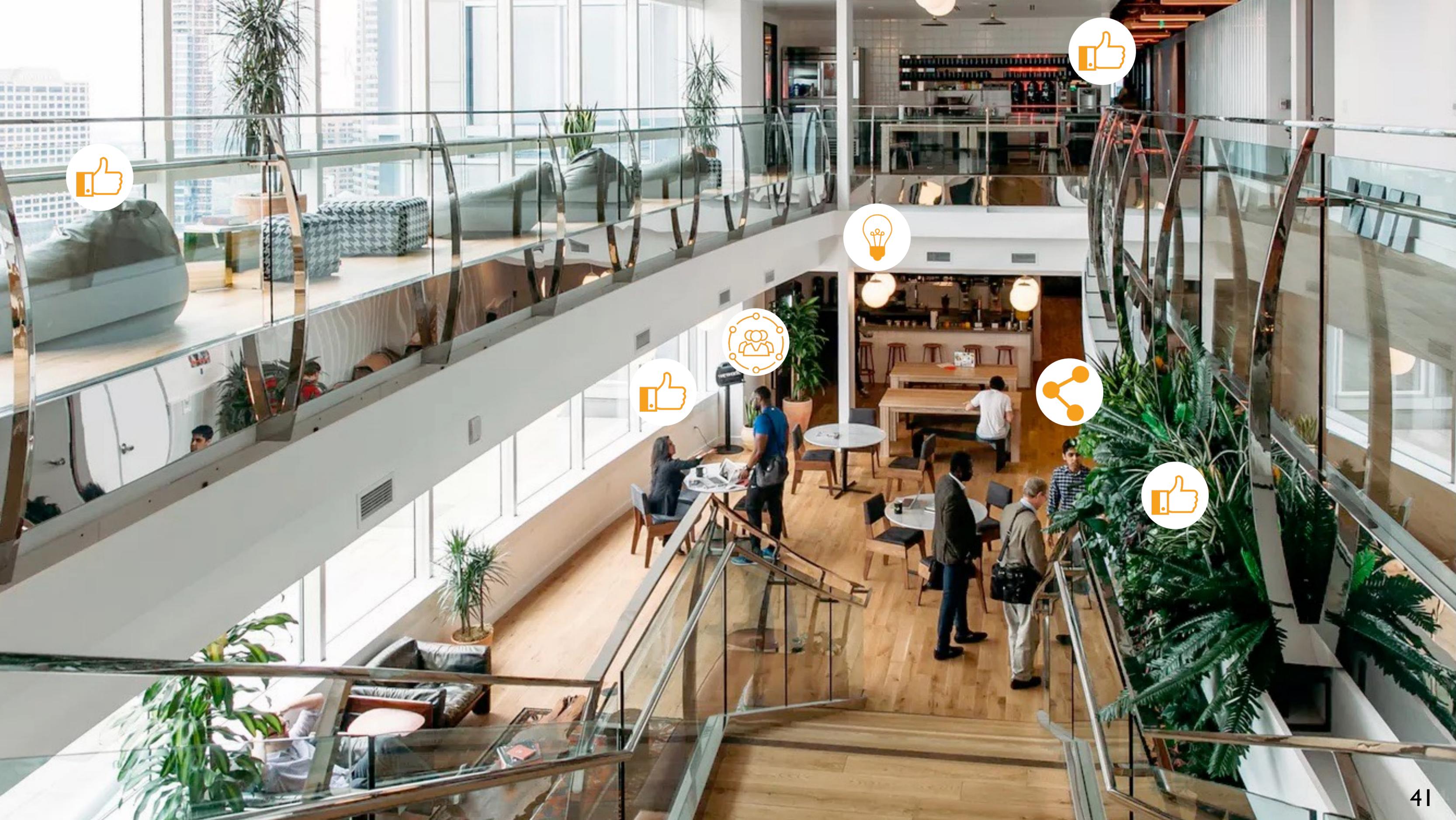


“Buildings are literally becoming giant computers,” says Joshua Emig, head of product research.”

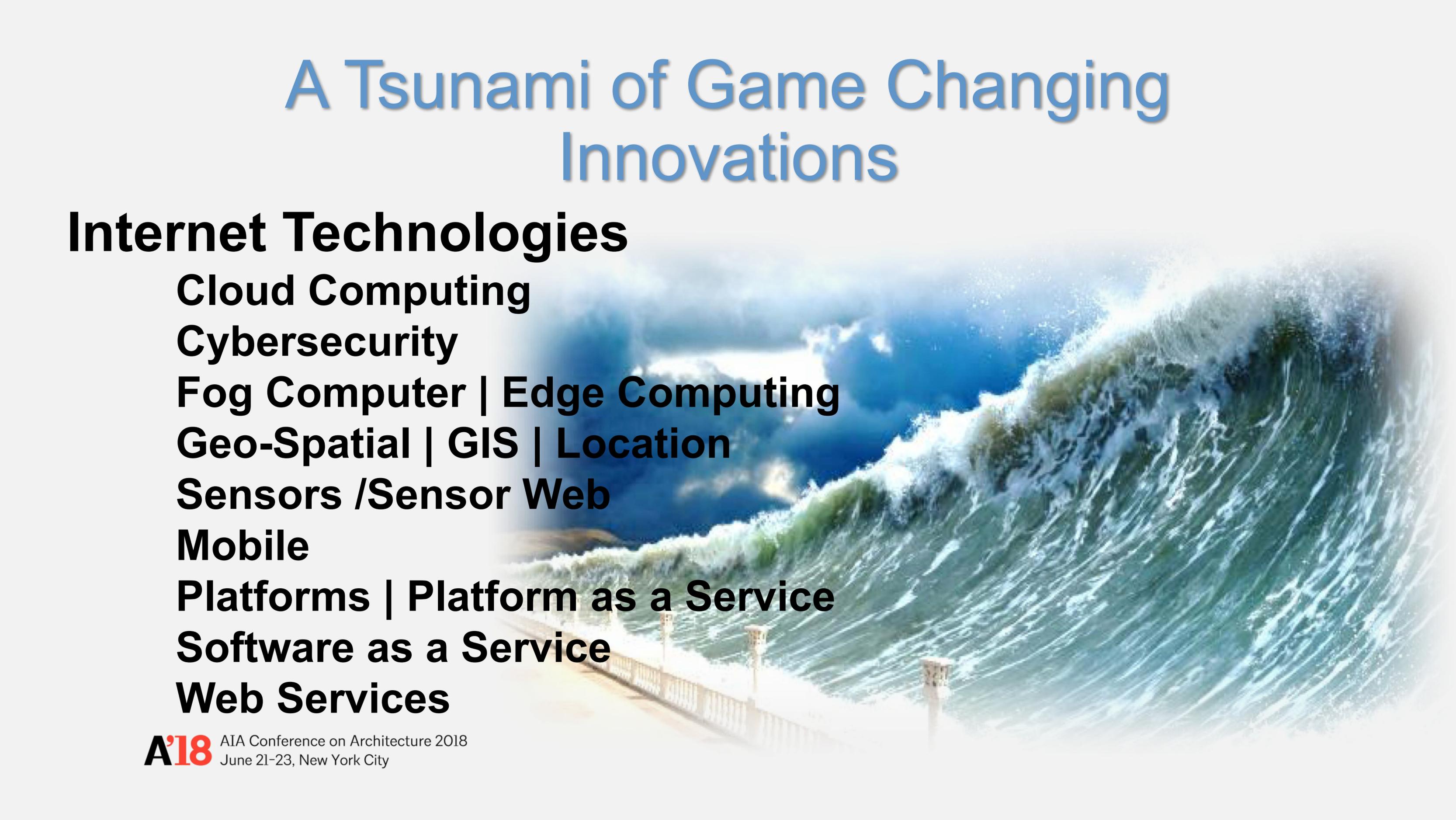
“In the office of the future, heat maps will facilitate employee interactions, and conference rooms will talk to you”



wework



A Tsunami of Game Changing Innovations

A large, powerful tsunami wave crashing over a beach with a wooden pier in the foreground. The wave is massive, with white foam and a dark blue-green hue. The sky is bright blue with some white clouds. The pier is made of light-colored wood and has several posts. The beach is sandy and appears to be in the foreground.

Internet Technologies

Cloud Computing

Cybersecurity

Fog Computer | Edge Computing

Geo-Spatial | GIS | Location

Sensors /Sensor Web

Mobile

Platforms | Platform as a Service

Software as a Service

Web Services



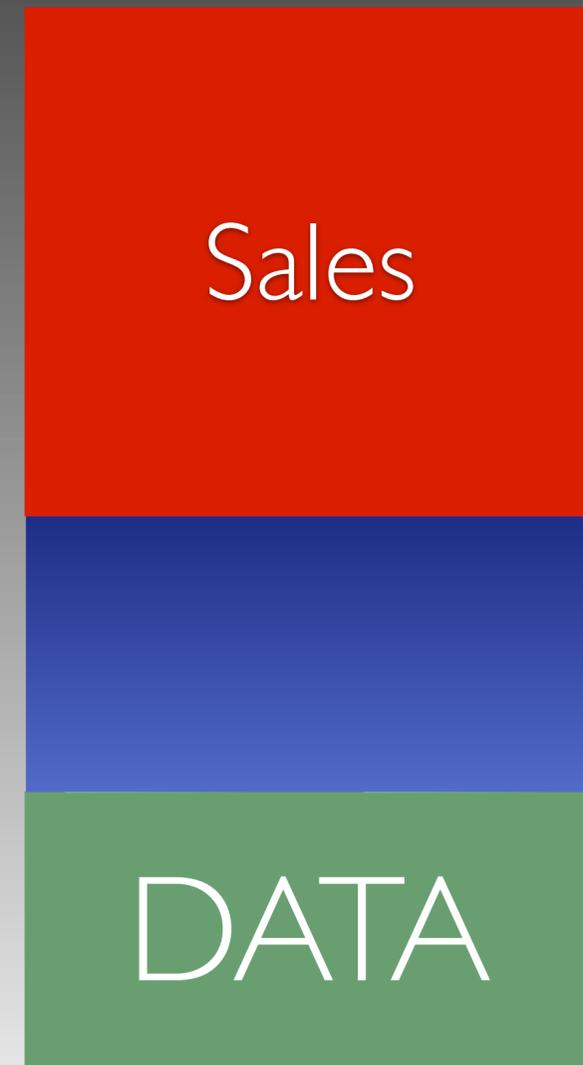
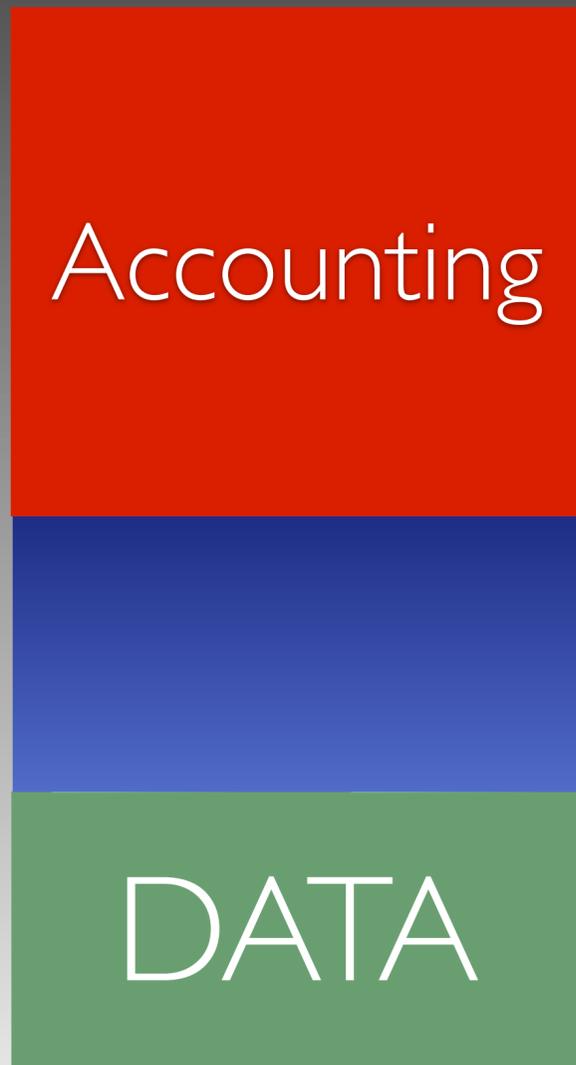
<http://kuow.org/post/companies-are-programming-humans-out-equationslide-1>



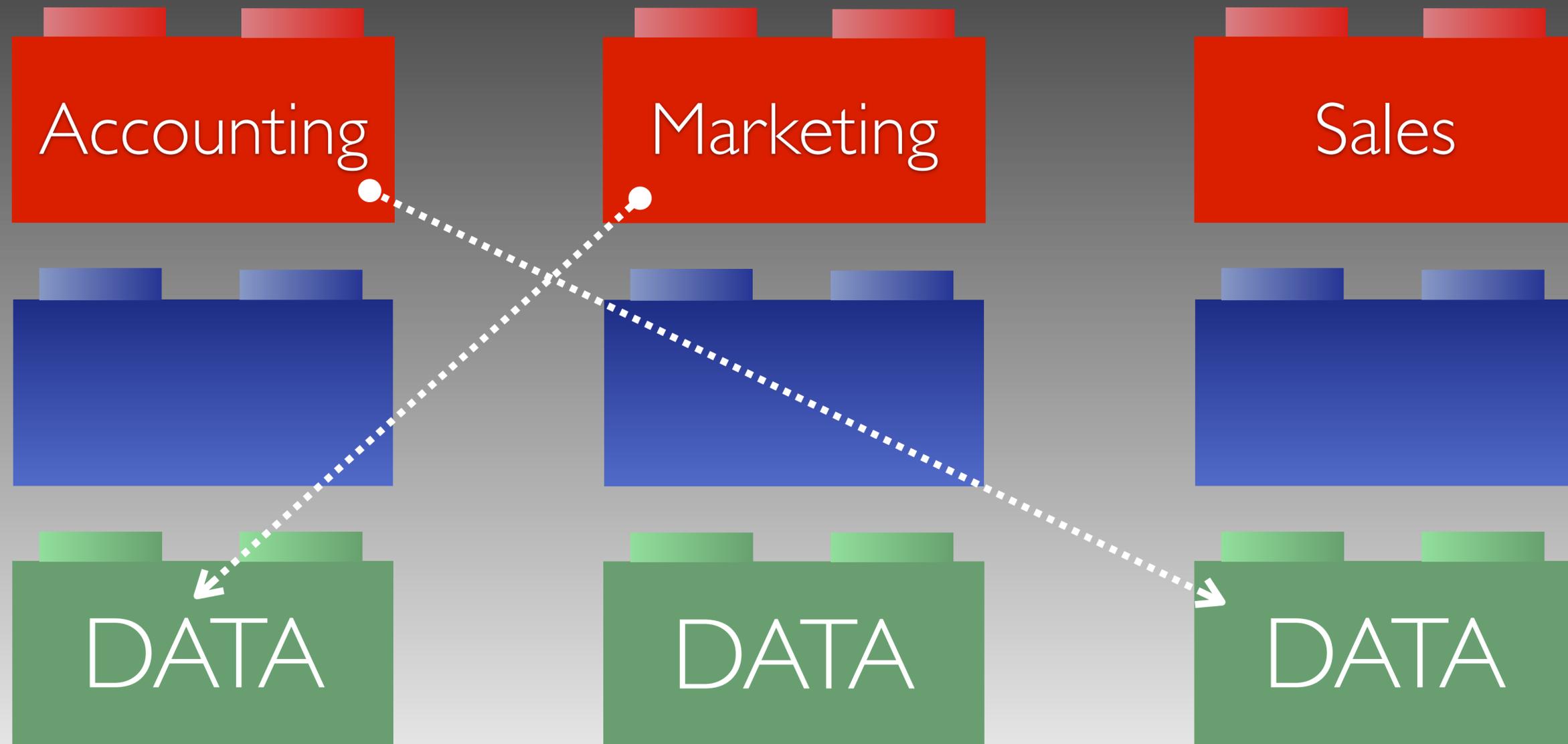
1998: "I sell books."

2017: "I sell whatever the f I want."

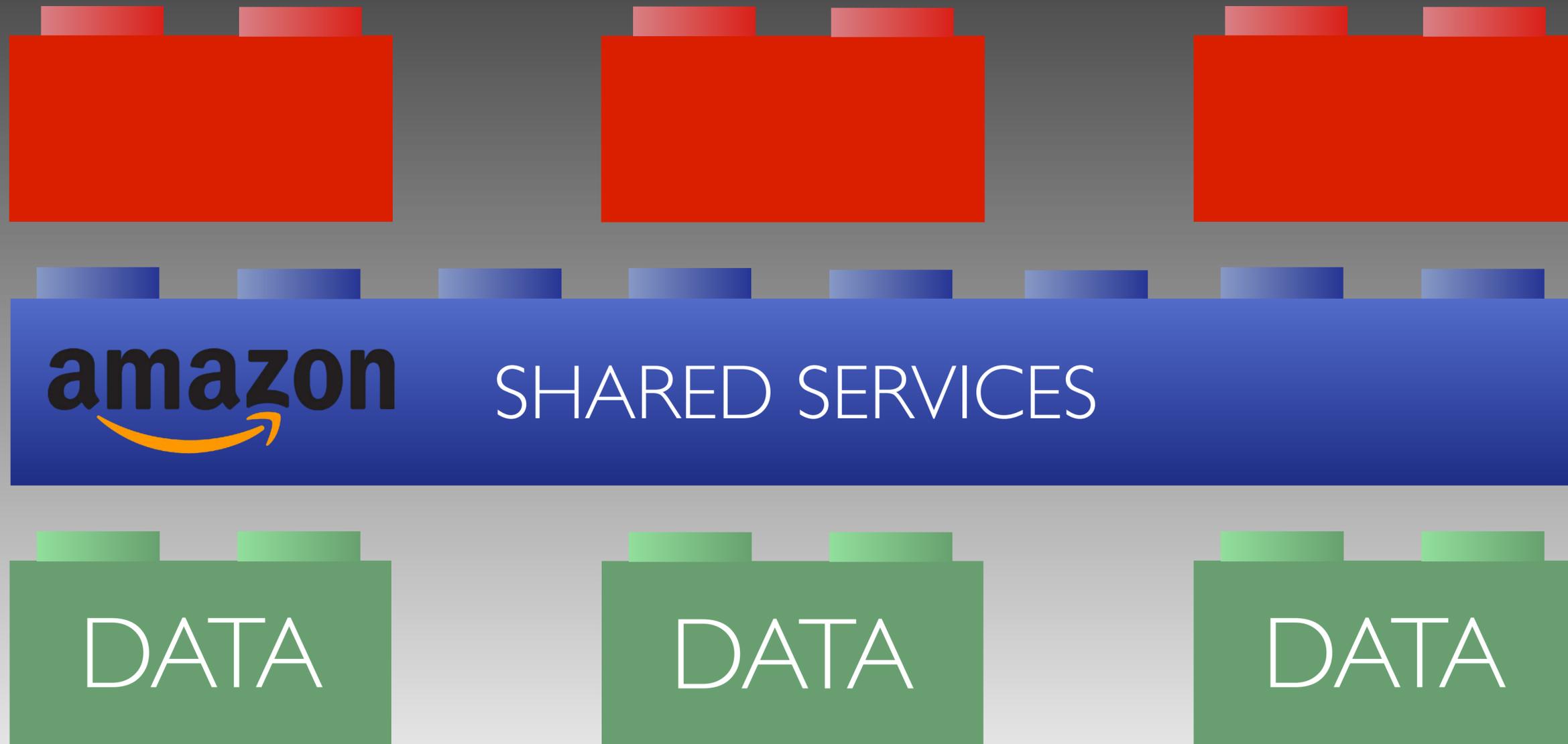
SILOS



EXPOSE



PLATFORM



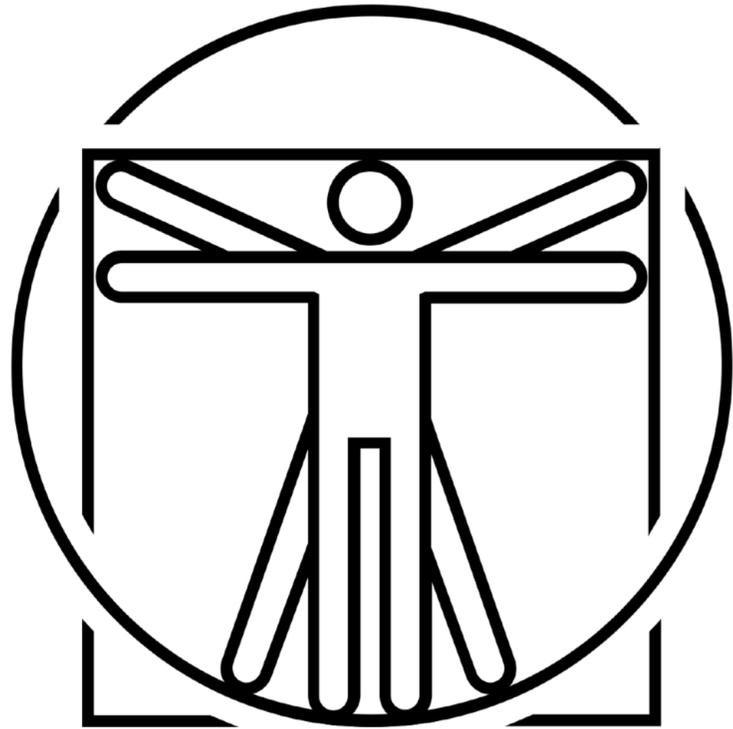


SHARED SERVICES

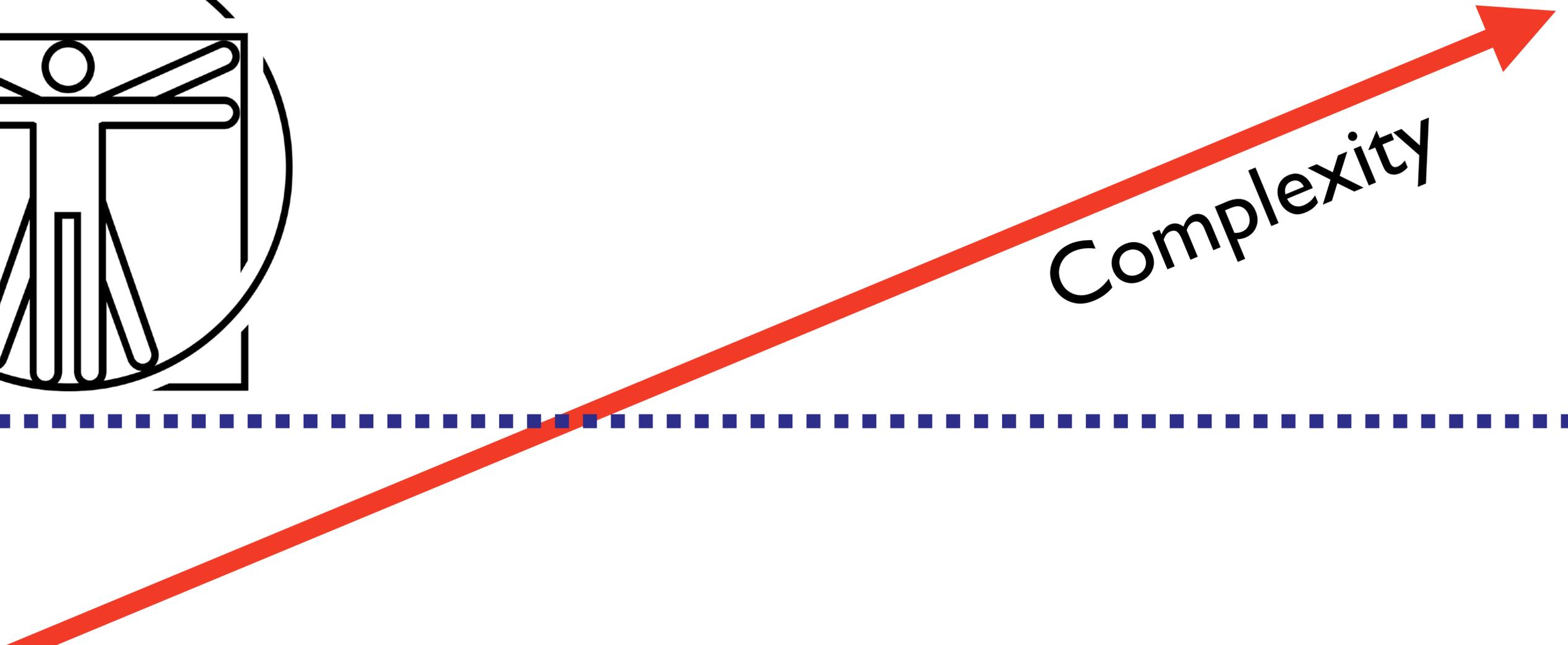


Complexity

Humans

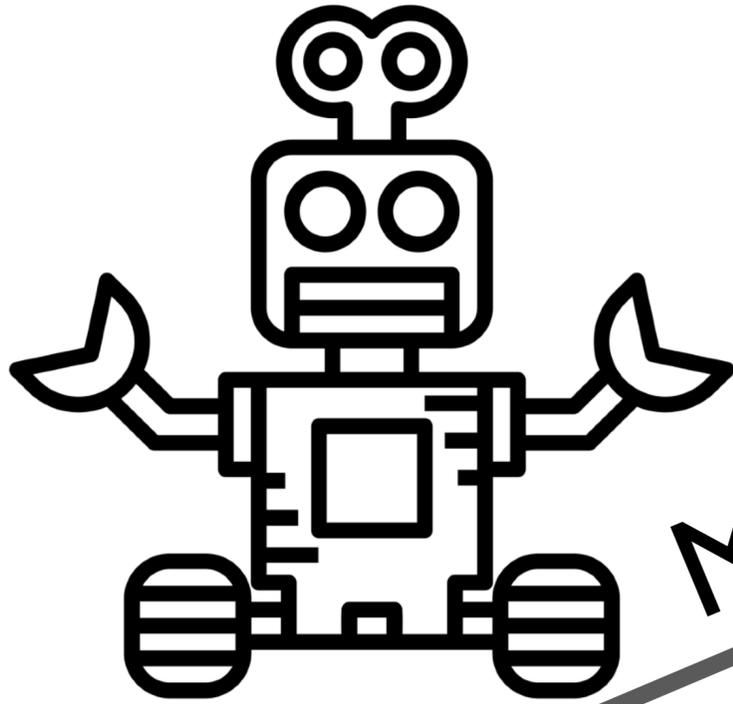
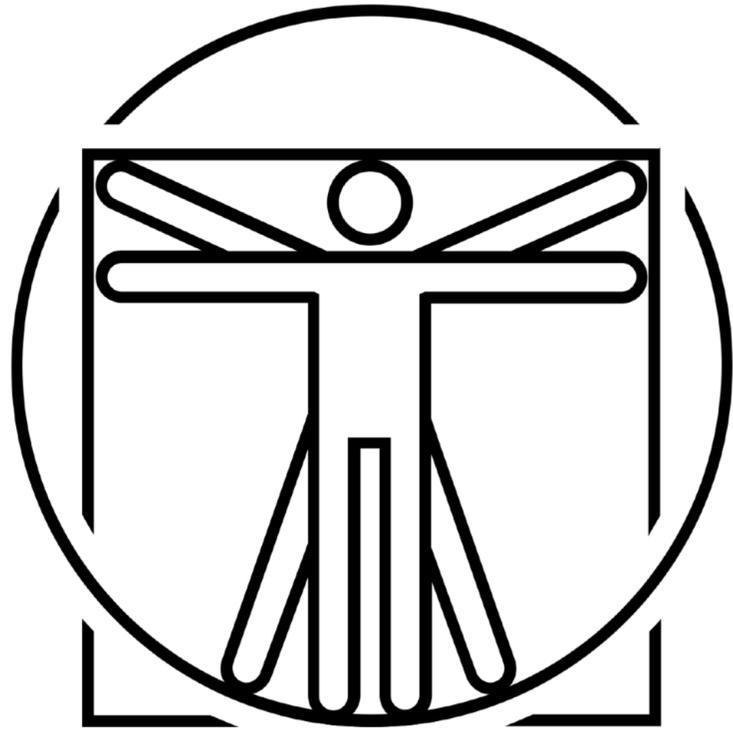


Complexity



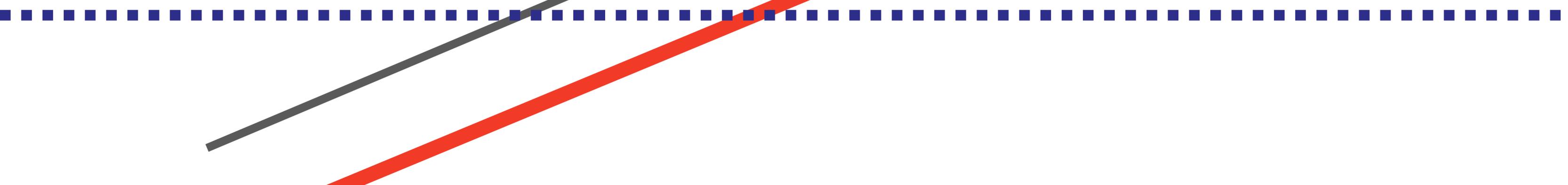
Automate

Humans



Machines + Humans

Complexity





ARCHITECTURE

PART 3

CASE STUDIES

AS A
PLATFORM

Kimon Onuma, FAIA

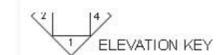
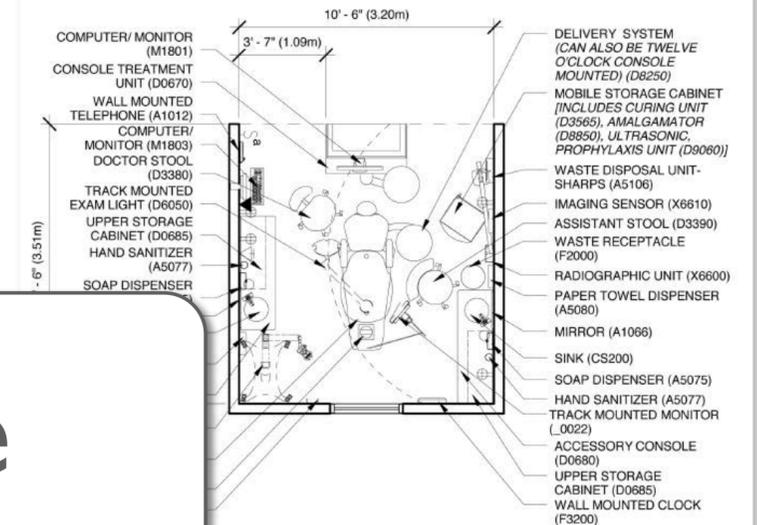
Room Data

7. Treatment Room, Maxillo-Facial (DNTG1)..... 150 NSF (14.0 M)
Provide one per Maxillo-Facial Treatment Room authorized if in Concept of Operations.

This room is for prosthetic treatment of patients with abnormal conditions of the face and oral structures.

DENTAL SERVICE JUNE 2014

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)



SCALE 1/4" = 1'-0"



DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)

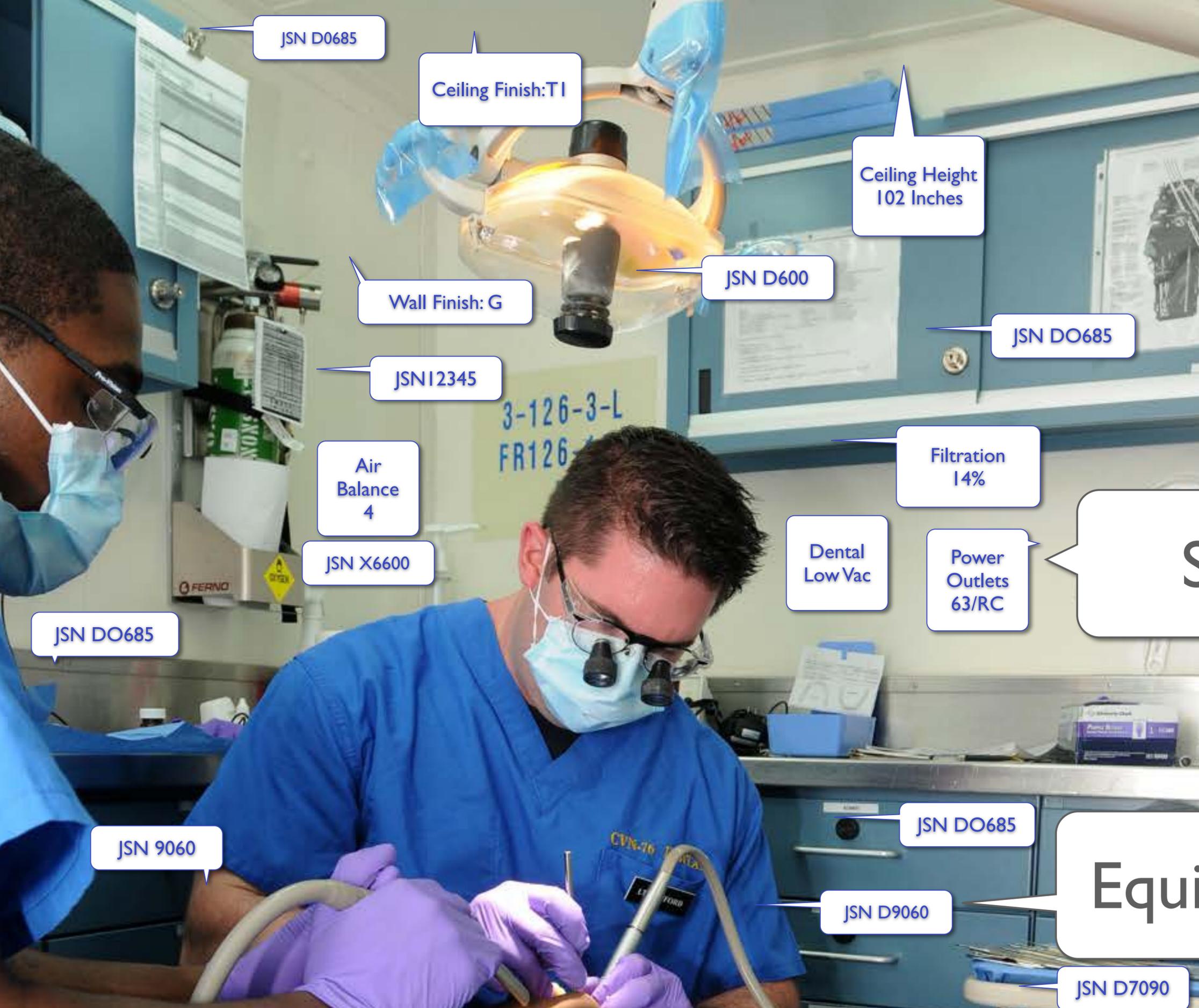
Dental Service Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VAD design Manuals and Space Planning Criteria located in the VA Technical Information Library.

ARCHITECTURAL	
Ceiling	Acoustical Ceiling Tile
	9'-0"
	Gypsum "Wallboard" / Paint / Acoustical Tackable Wall Covering
	Resilient Base
	Rubber Flooring or Solid Vinyl Floor Tile
	Open
	N/A
	N/A
	None Special
	System furniture desk, solid surface counter top with integral sink, wall living cabinets, base cabinets.

COMMUNICATIONS	
Picture Monitor	Yes
Nurse Call	Yes
Security/Drains	
CCTV	Potentially for brain injury patient
Telephone	Yes
Pub Address	Yes
Radio	
Data	Yes
Phone Call	
Battery Operated Clock	Yes
Intercom (Phone)	
Staff Assist	

HVAC	
Dry Bulb Temp Cooling	75° F (24° C)
Dry Bulb Temp Heating	70° F (21° C)
Minimum Outside Air	2 air changes/hr
1.000	1.000



JSN D0685

Ceiling Finish:TI

Ceiling Height 102 Inches

JSN D600

JSN D0685

Wall Finish: G

JSN I2345

Air Balance 4

Filtration 14%

JSN X6600

Dental Low Vac

Power Outlets 63/RC

Space

JSN D0685

JSN D0685

Equipment

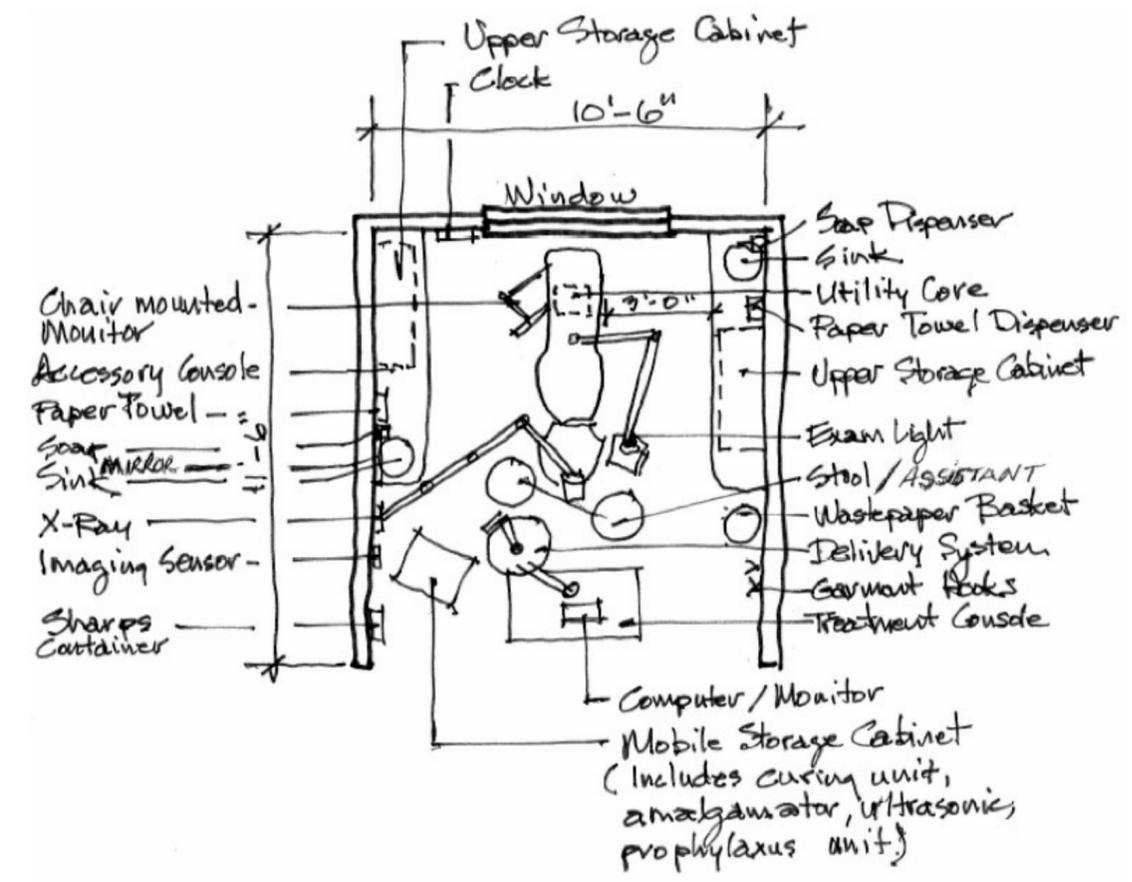
JSN D9060

JSN 9060

JSN D7090



Find



U.S. Department of Veterans Affairs
Office of Construction & Facilities Management
Technical Information Library (TIL)

THE SOURCE for VA's ELECTRONIC Design and Construction Information

TIL Feedback - we welcome your suggestions at tli@va.gov

What's New in the TIL?

- Standards Updates
 - June 1, 2014
 - Previous Issues
- Space Planning Criteria, 286 Surgical Service
- Design Alerts
- Standards Alert: Design for the Impacts of Sea Level Rise

TIL Quick Links

- A/E Submission Rqmts
- BIM Guide
- Cost Estimating
- Design Guides (graphical)
- Design Manuals
- NCA Criteria & Specs
- Signage Guide
- Space Planning, VA-SEPS
- Specifications
- Standard Details
- Sustainable Design

Related Links

- Whole Building Design Guide

VA Numbered Standards for Construction

PG-18-1 Master Construction Specifications	PG-18-12 Design Guides (graphical, by function)
PG-18-3 Design and Construction Procedures	PG-18-13 Barrier Free Design Guide
PG-18-4 Standard Details and CAD Standards	PG-18-14 Room Finishes, Door, and Hardware Schedules
PG-18-5 Equipment Guide List	PG-18-15 Minimum Requirements for A/E Submissions
H-18-8 Seismic Design Handbook	PG-18-17 Environmental Planning Guidance
PG-18-9 Space Planning Criteria, and VA-Space & Equipment Planning System (VA-SEPS)	D-7545 Cultural Resource Management
PG-18-10 Design Manuals (by discipline)	H-7545 Cultural Resource Management Procedures

CFM TIL RESOURCES

- CFM Home
- TIL Home
- TIL CATALOG product listing A to Z
- >> ALERTS
- >> Design Criteria
- >> AE Design Submission & Review
- >> Project Software Requirements
- TIL Standards from FTP site
- Contact Us

QUICK LINKS

- Career Opportunities
- Office of Acquisition, Logistics and Construction (OALC)
- Office of Small and Disadvantaged Business Utilization (OSDBU)
- Office of Asset Enterprise Management (OAM)

CONNECT WITH US

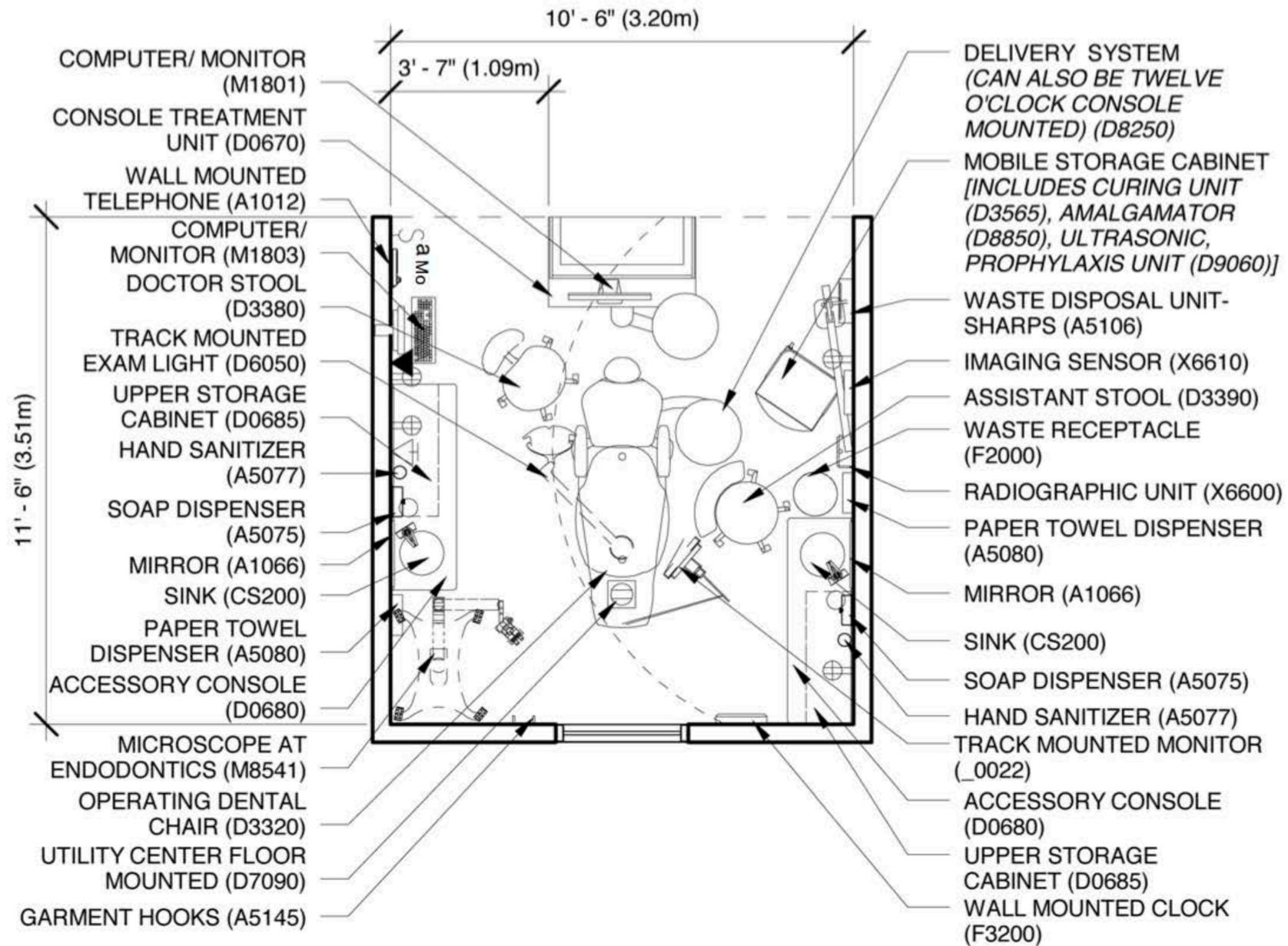
Mailing address:
810 Vermont Avenue NW (003C)
Washington, DC 20420

Physical address:
425 I Street, NW
Washington, DC 20001

Tel: 202-632-4607
Email: cfm@va.gov



Document



Requirements



Automate

SEPS 2 BIM

SEPS 2 BIM

BIM: Equipment Objects, Space Templates & Departments
Healthcare Space and Equipment Planning

Objects
~2,100 Objects
Used in Templates

+ Templates
~1,100 Space Templates
Used in Departments

+ Departments
Multiple Departments
Used in Projects

= Projects
Generate Infinite Variations
for Facility Projects

A Direct Pipeline to Owner Requirements



SEPS 2 BIM

Ground Floor

Select a BIM Template

How Fresh is This BIM?
Created On: Aug 28, 2016
Today Is: Aug 28, 2016
This BIM is: 0 Days Old!

1 Spaces / 130 NSF
38 Pieces of Equipment

View This BIM
in 3D on IPAD

Create Fresh BIM from SEPS!

Export to:

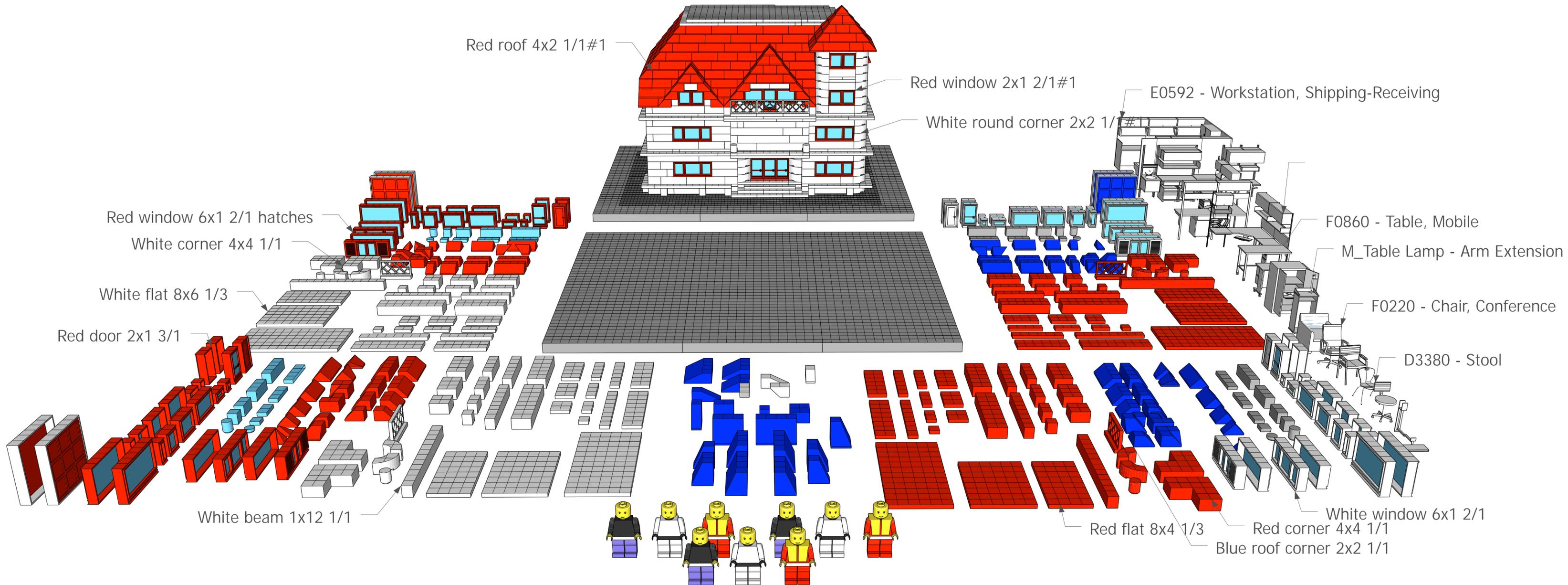
- Revit BIMXML
- Archicad BIMXML
- SketchUp BIMXML
- Room Attributes
- Equipment Types
- Equip. Instances
- Excel COBie
- Plug-Ins
- Email this BIM

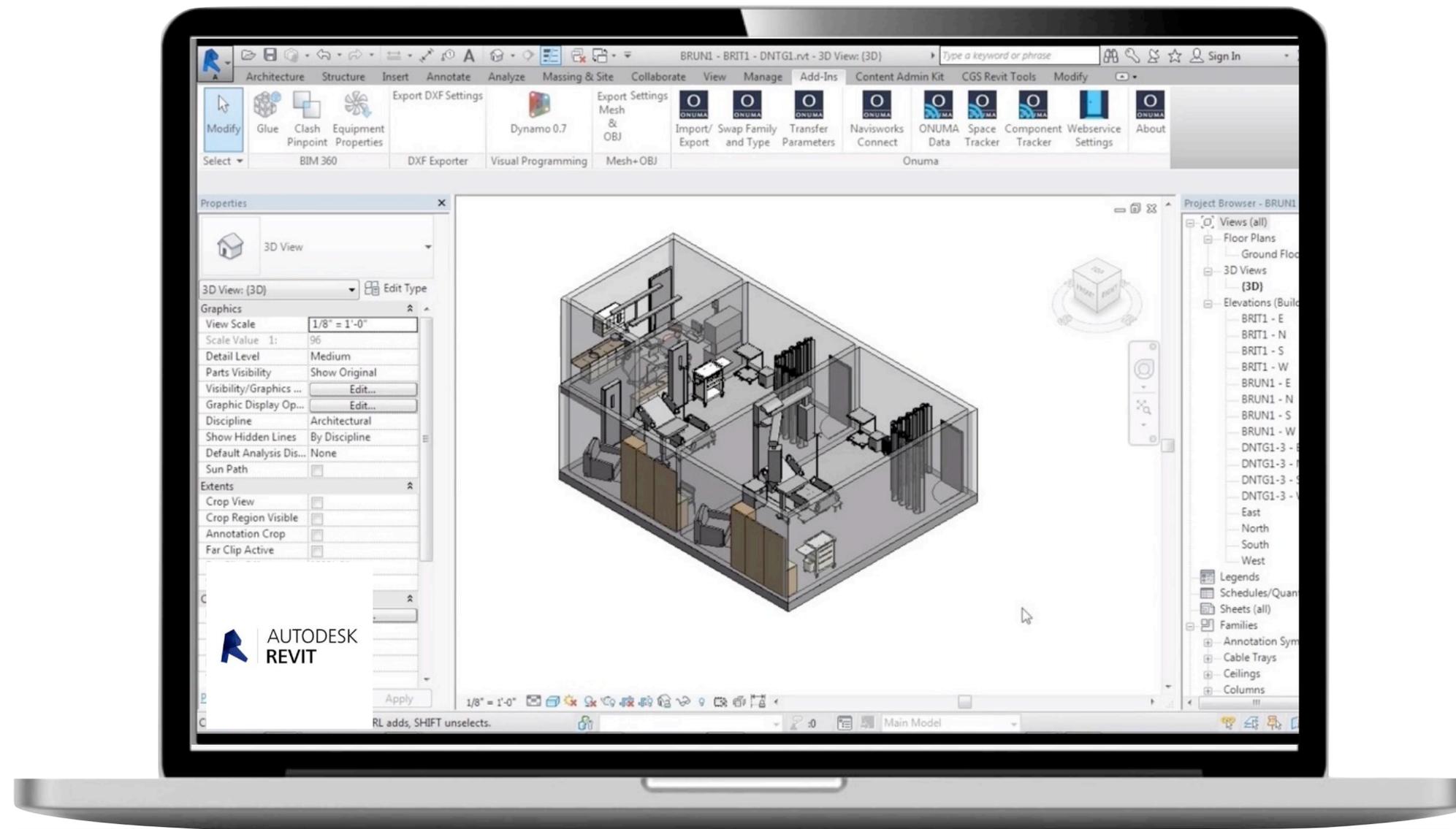
VIEW MODE

DNTG1
DENTAL
TREATMENT
ROOM
GENERAL

Live: SEPS2BIM.org

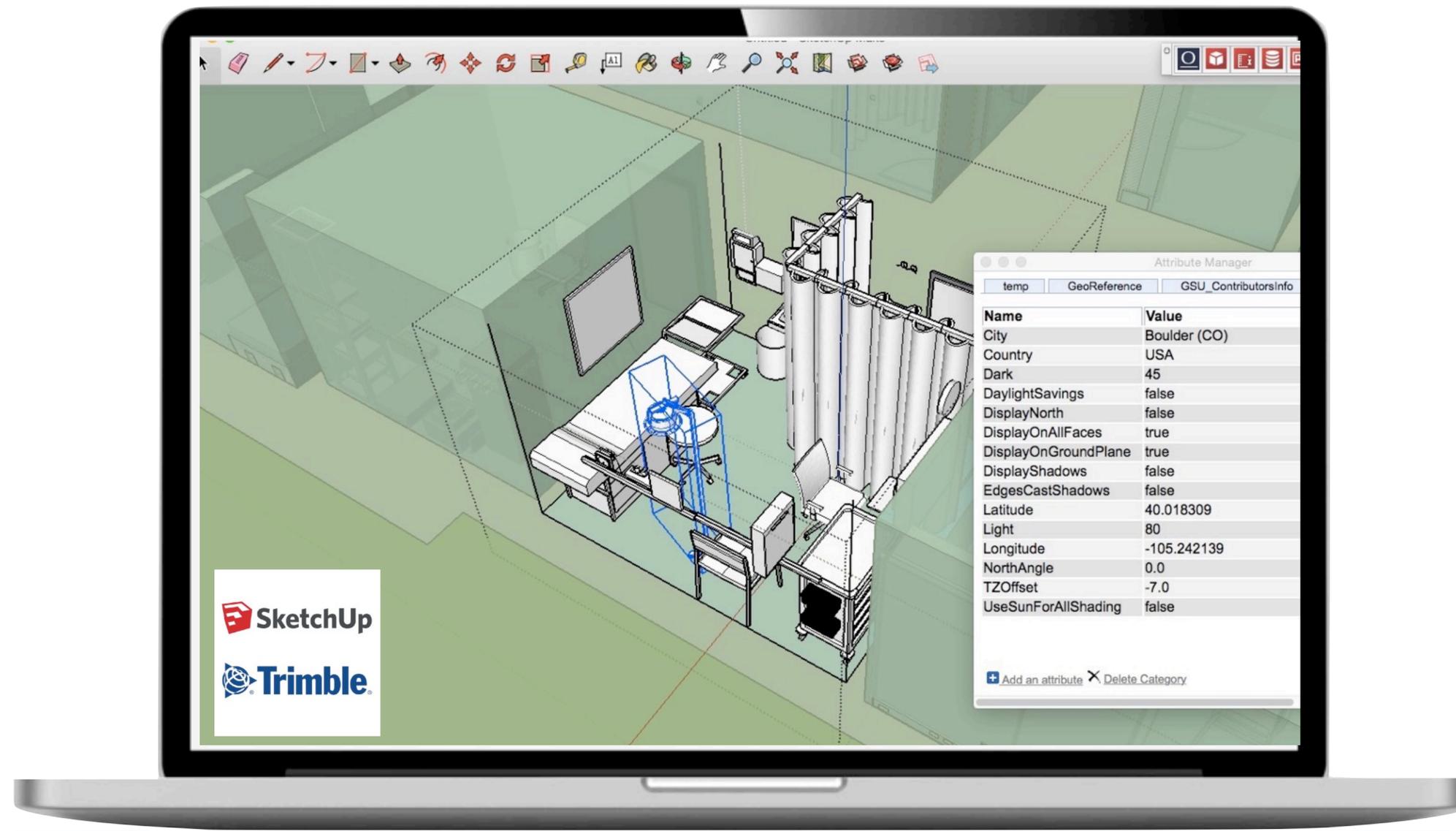
PLATFORM





SERVICES

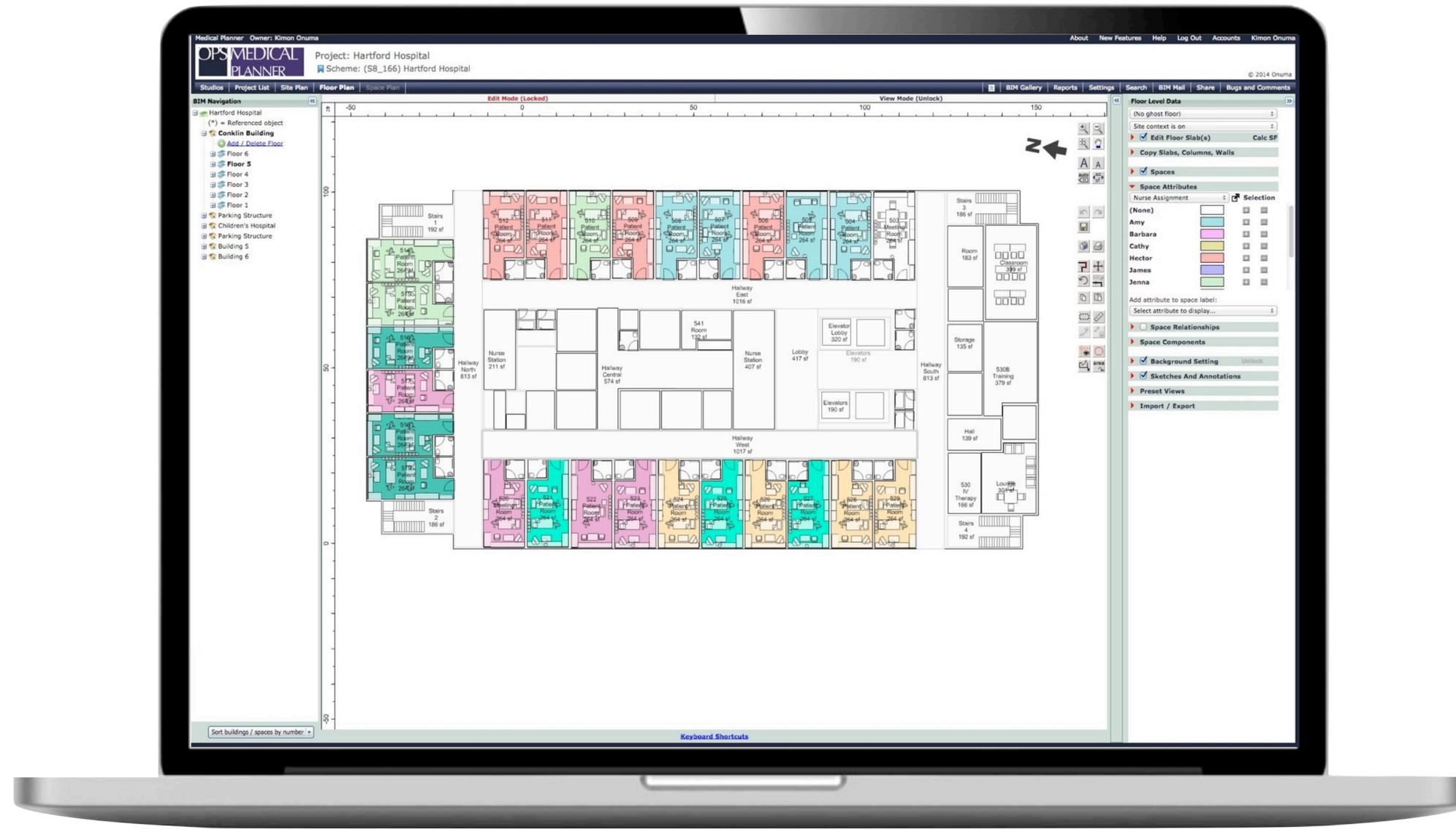
DATA



Name	Value
City	Boulder (CO)
Country	USA
Dark	45
DaylightSavings	false
DisplayNorth	false
DisplayOnAllFaces	true
DisplayOnGroundPlane	true
DisplayShadows	false
EdgesCastShadows	false
Latitude	40.018309
Light	80
Longitude	-105.242139
NorthAngle	0.0
TZOffset	-7.0
UseSunForAllShading	false

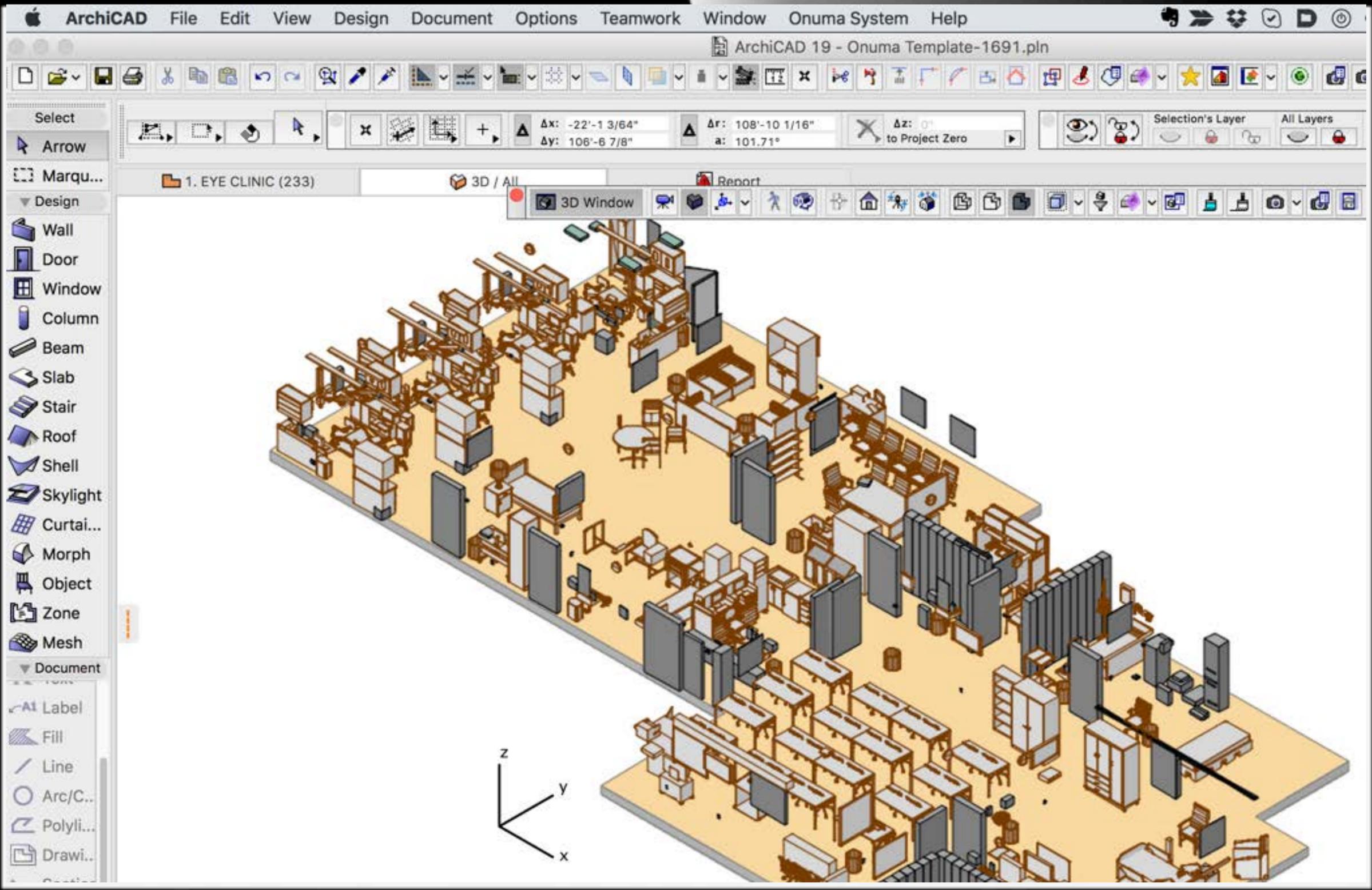
SERVICES

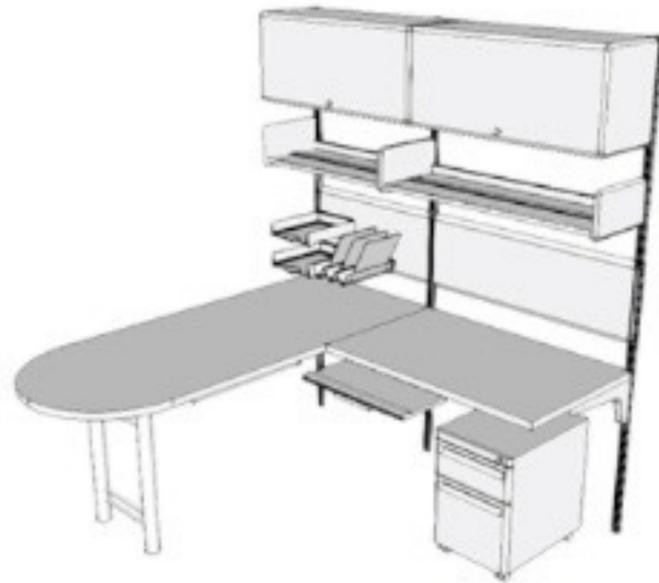
DATA



SERVICES

DATA





E0063 - Workstation, L-Shaped w/Peninsula, Wall Mtd

Unique ref.:	E0063
Brand:	SEPS2BIM
Product family:	Workstation
Product group:	L-Shaped w/Peninsula
Width (mm):	1900
Height (mm):	2030
Depth (mm):	1850
Date of publishing:	2016-01-01
Edition number:	1
Type:	Requirement Object

DOWNLOADS

ArchiCAD

e0063_workstation_l_shape...

Ifc

e0063_workstation_l_shape...

Revit

E0063 - Workstation, L-Shap...

E0063 - Workstation, L-Shap...

E0063 - Workstation, L-Shap...

Sketchup

e0063_workstation_l_shape...

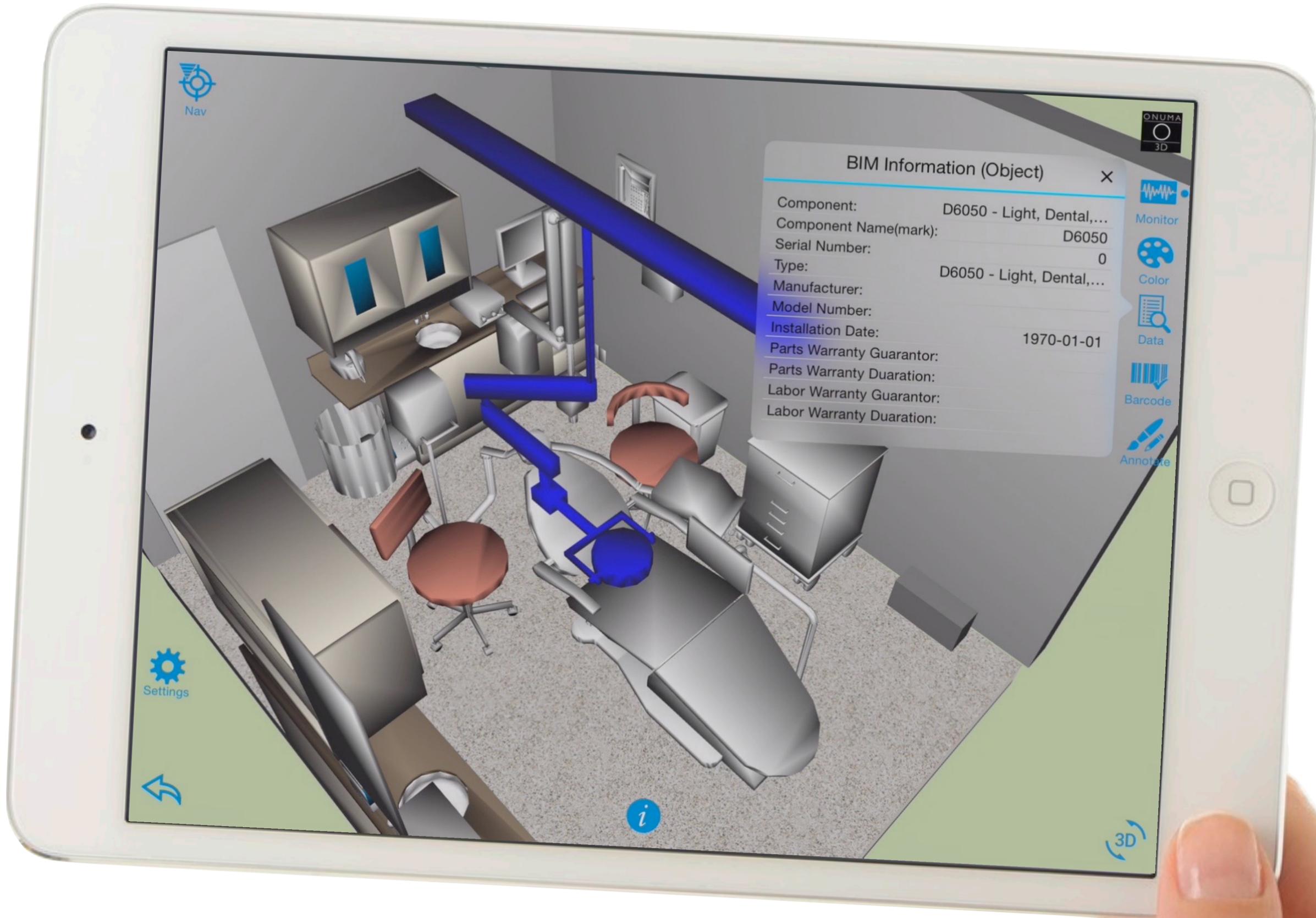
Description

Links

Related

Classification

Region



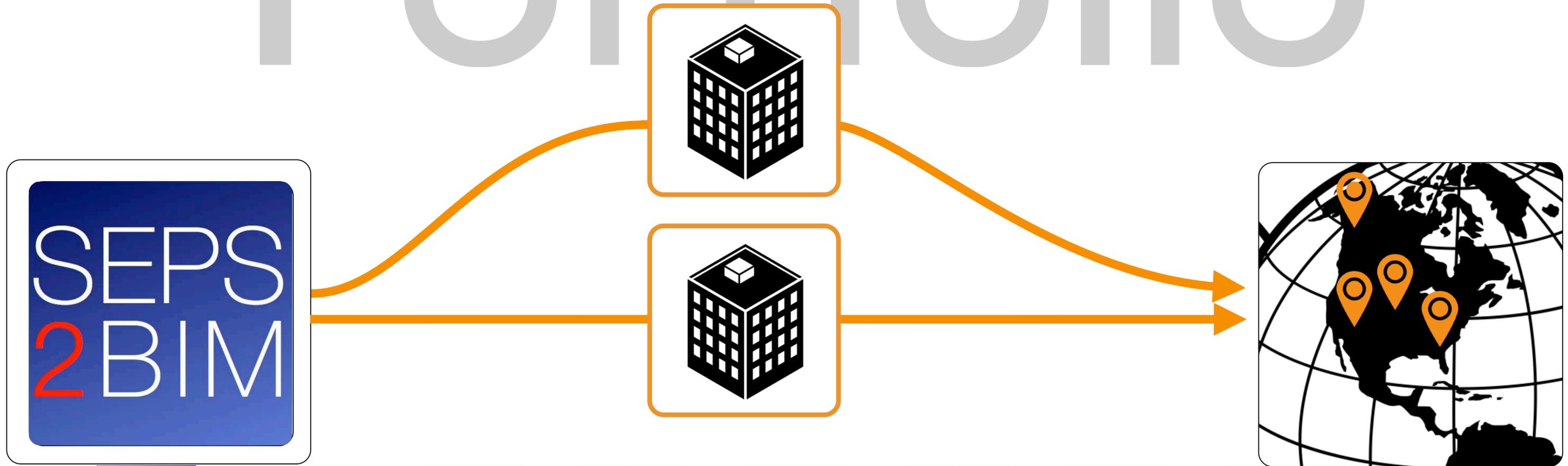


SHERLOCK
SMITH & ADAMS
ARCHITECTS / ENGINEERS

SERVICES

DATA

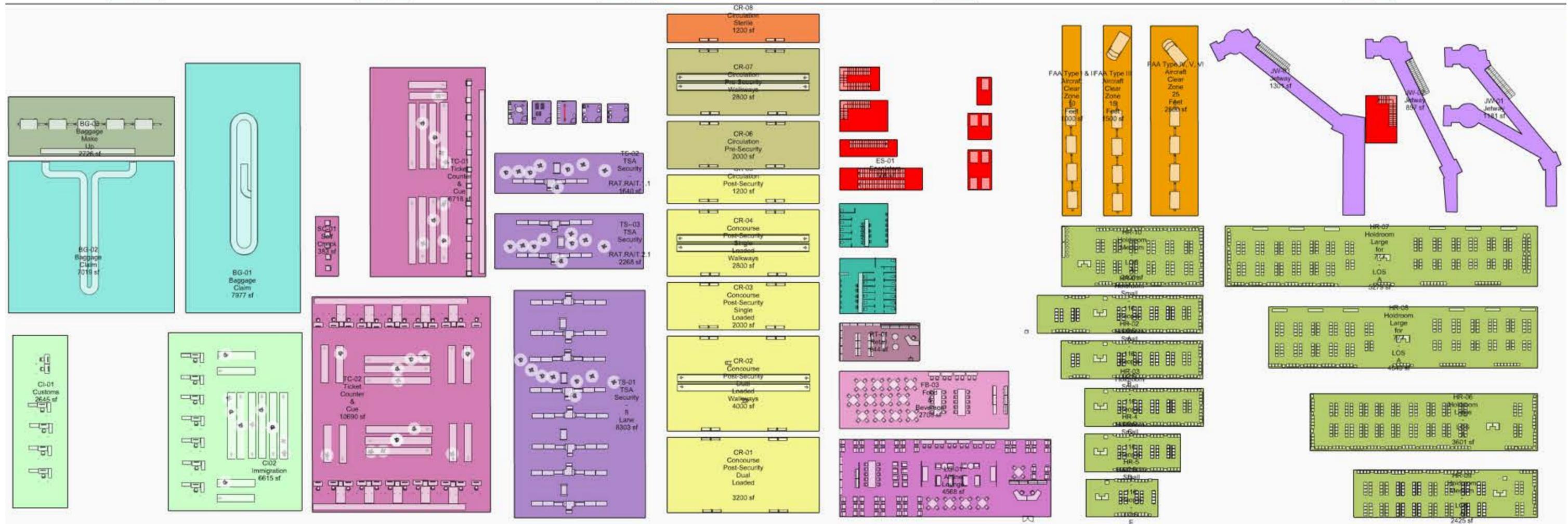
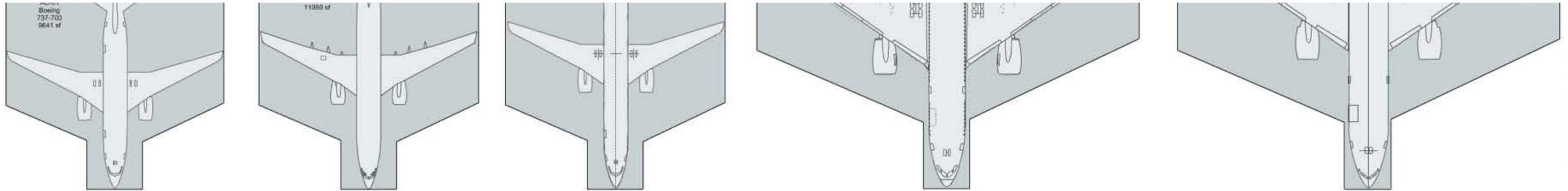
Portfolio

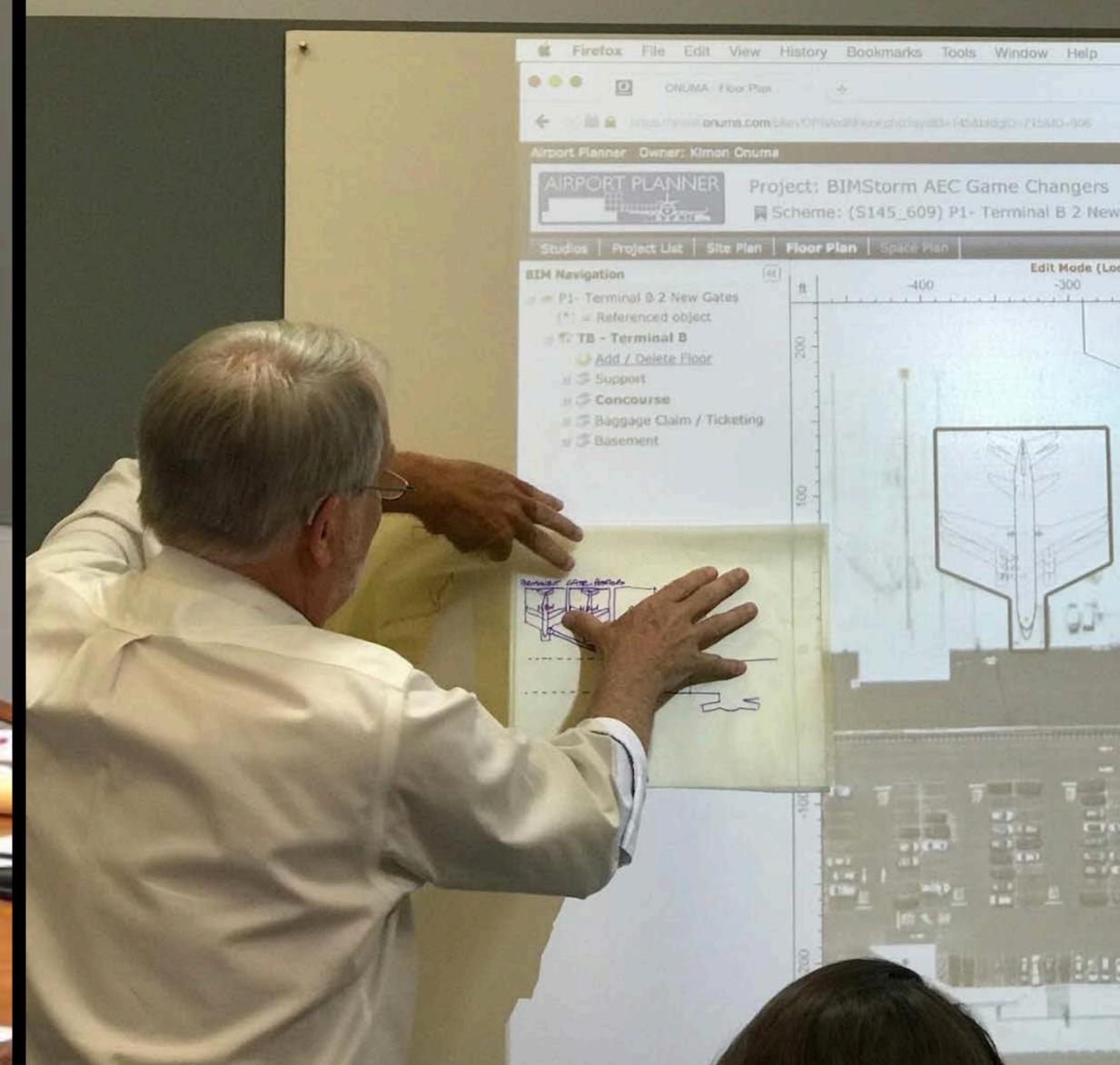
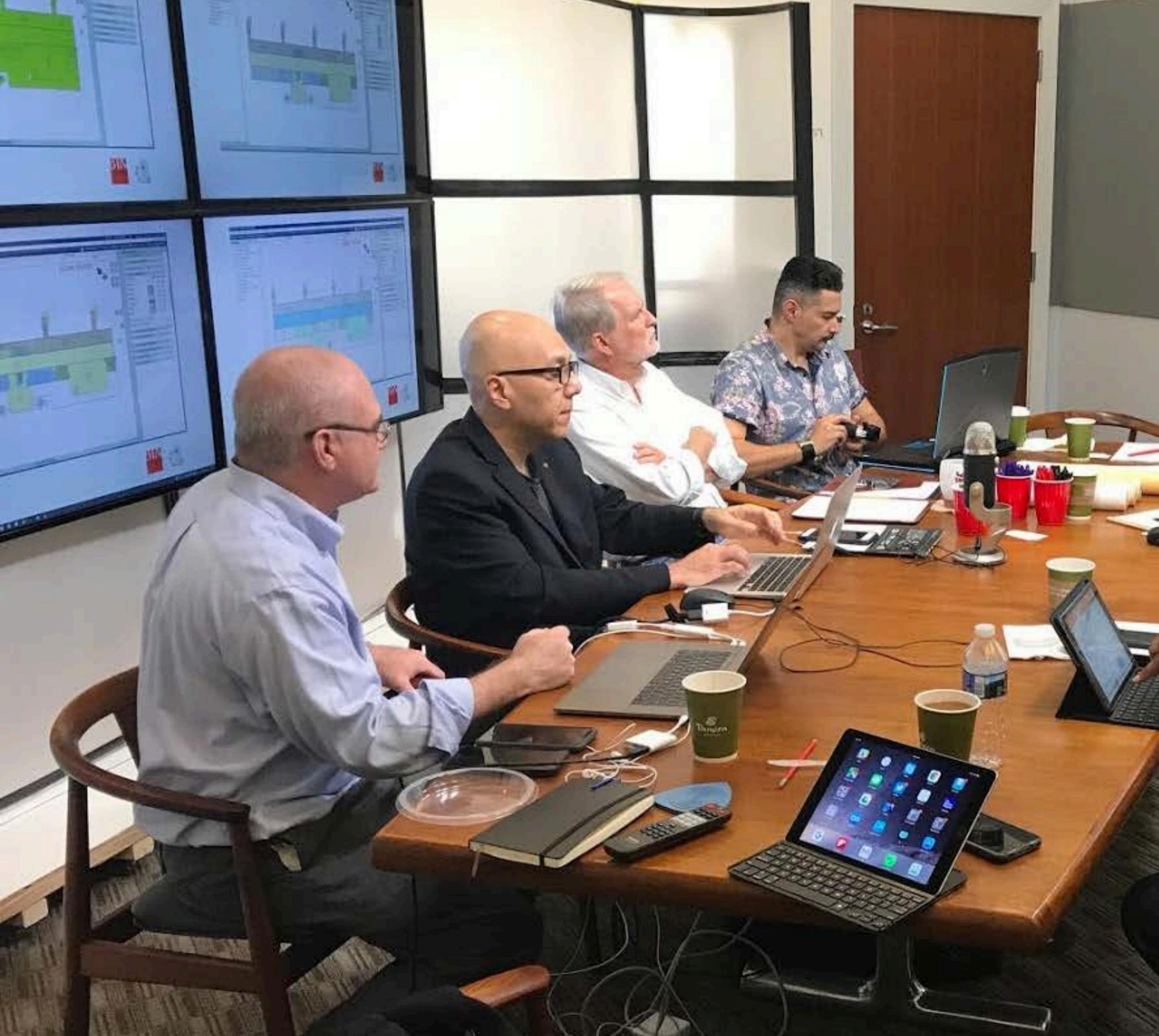


SERVICES

DATA

Spaces and Equipment





Gate Scheduling

9am

10am

11am

12pm

1pm

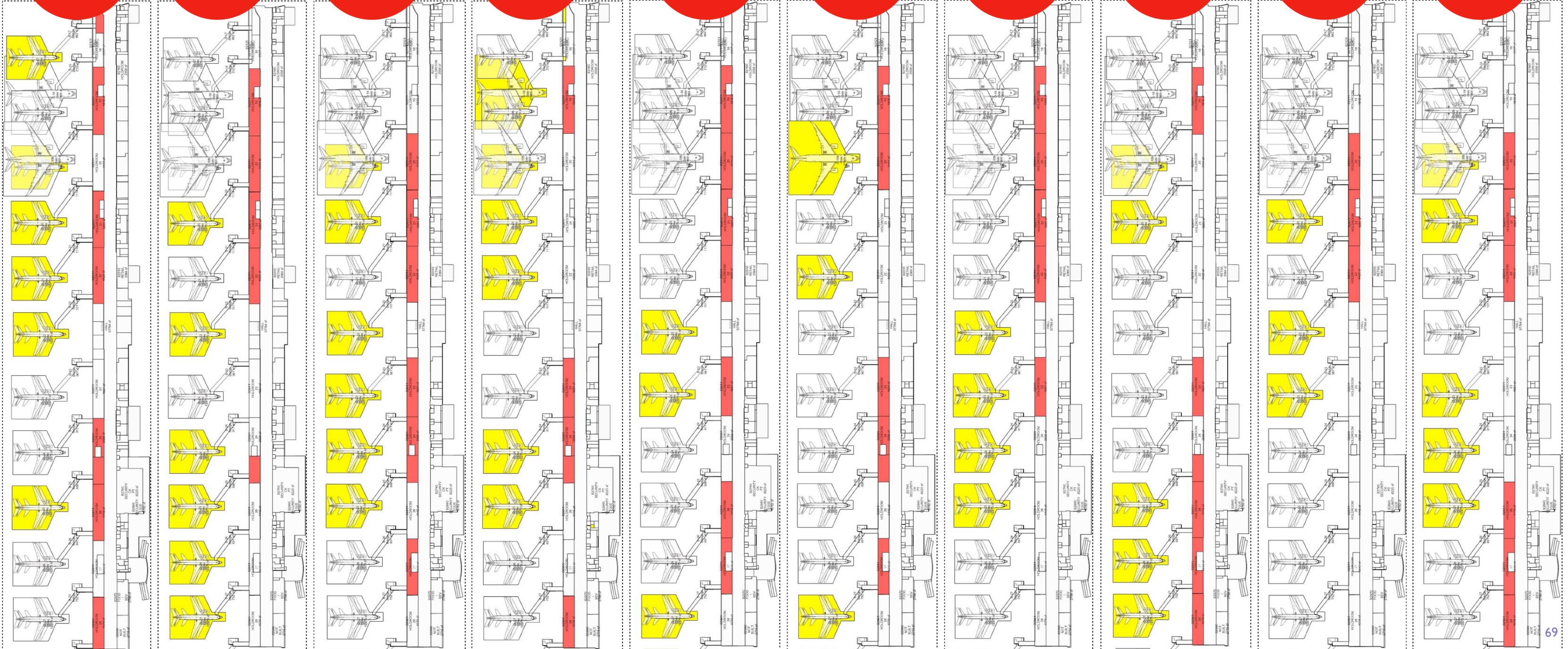
2pm

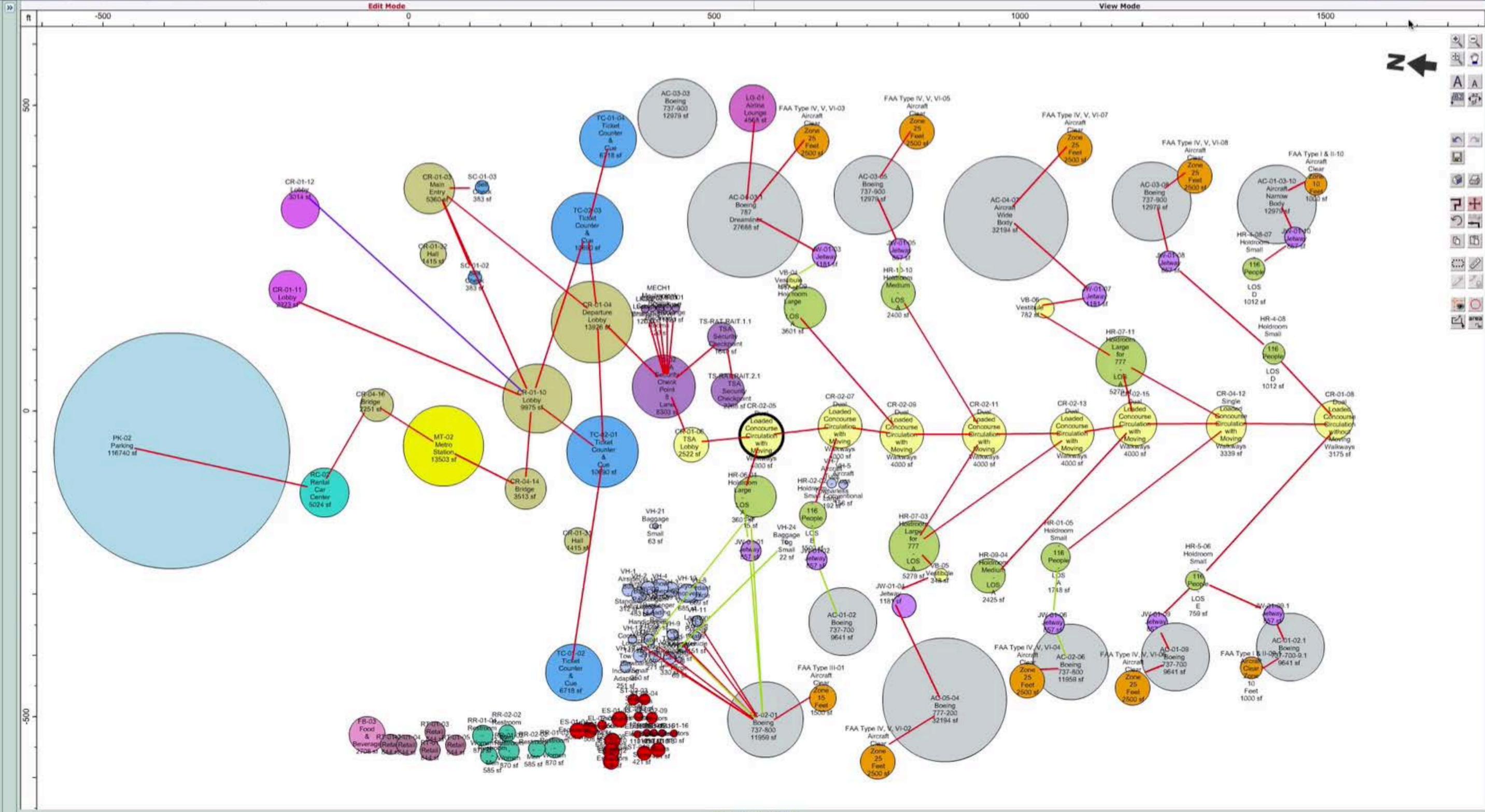
3pm

4pm

5pm

6pm





Floor Level Data

Site context is off

Edit Floor Slab(s) Calc SF

Copy Slabs, Columns, Walls

Spaces

Bubble Diagram (Actual Area)

Space Attributes

Departments Selection

(None)

Passenger Services

Employee Services

Airline Club

Departure Lounge

Jetway

Circulation

Add attribute to space label:
Select attribute to display...

Space Relationships

Space Components

Background Setting

Background: (None)

Upload Background
Browse... No file selected.
(Background Name)

Sketches And Annotations

Preset Views

Import / Export

Import a site / building / space

Export a site / building / space

Keyboard Shortcuts

Properties

3D View

3D View: {3D} Edit Type

Graphics

View Scale	1/8" = 1'-0"
Scale Value	1: 96
Detail Level	Medium
Parts Visibility	Show Original
Visibility/Grap...	Edit...
Graphic Displ...	Edit...
Discipline	Coordination
Show Hidden ...	By Discipline
Default Analy...	None
Sun Path	<input type="checkbox"/>

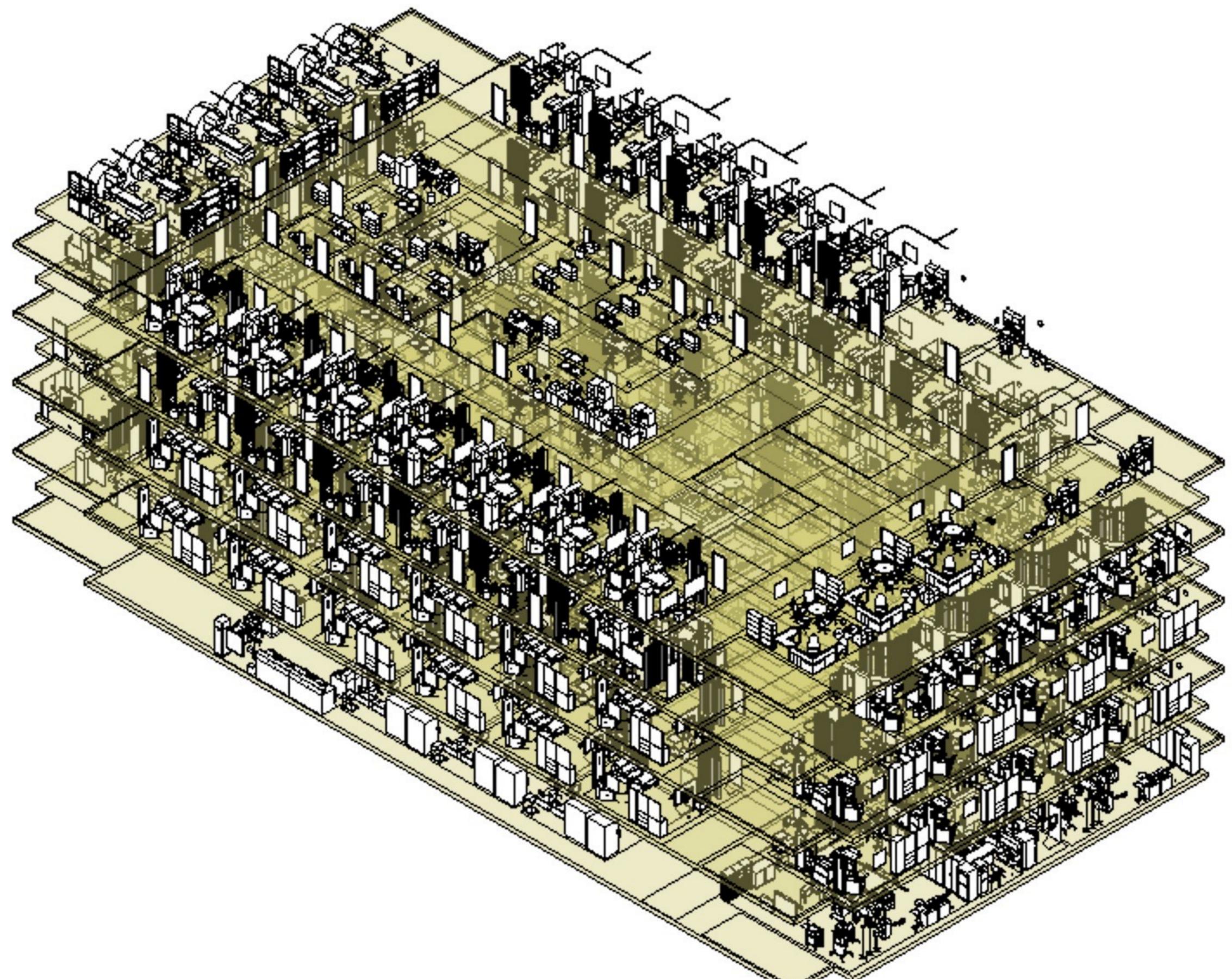
Extents

Crop View	<input type="checkbox"/>
Crop Region ...	<input type="checkbox"/>
Annotation Cr...	<input type="checkbox"/>
Far Clip Active	<input type="checkbox"/>
Far Clip Offset	1000' 0"
Section Box	<input type="checkbox"/>

Camera

Rendering Set...	Edit...
Locked Orient...	<input type="checkbox"/>
Perspective	<input type="checkbox"/>
Eye Elevation	117' 9 27/256"
Target Elevation	32' 7"
Camera Positi...	Adjusting

Identity Data



BIMStorm.com

CLICK TO
BUILD
A BIM

BIMStorm

1
OWNER
PROGRAM



Program Sets

Select a Program Set

Offices - Meeting Rooms

SUBMIT

Program Sets are Groupings of Rooms

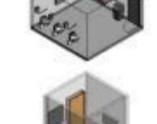
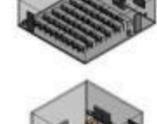
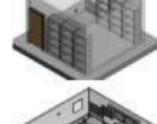
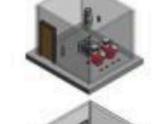
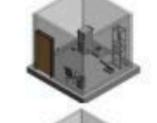
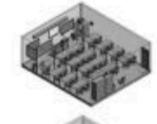
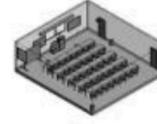
Program2BIM can be used to select from a list of individual spaces to create a *Program Set* or use the predefined sets from the pull-down. Multiple Program Sets can be combined to create a larger facility.

Program Sets are often called departments, functional areas, zones, groupings and other names.

Sets are not intended to be the final design but they do enable rapid creation of programs for:

- Housing Units
- Office Suites
- Medical Suites
- Educational Facilities
- and more

Education - 6 Classrooms



CCC001 - Classroom Type 1

Quantity: 2

CLR01 - Classroom, Table/Chair

Quantity: 2

CMP02 - Computer, Terminal/Server

Quantity: 1

MECH1 - Mechanical Rooms /
Electrical Rooms

Quantity: 1

OFDC2 - Consultation Room

Quantity: 4

SRCH1 - Storage, Charging,
Battery/Equipment

Quantity: 2

STU015 - Medium Classroom

Quantity: 2

TLTF2 - Toilet, Public, Female

Quantity: 1

TLTM1 - Toilet, Male Staff

Quantity: 1



Add More BIM Templates

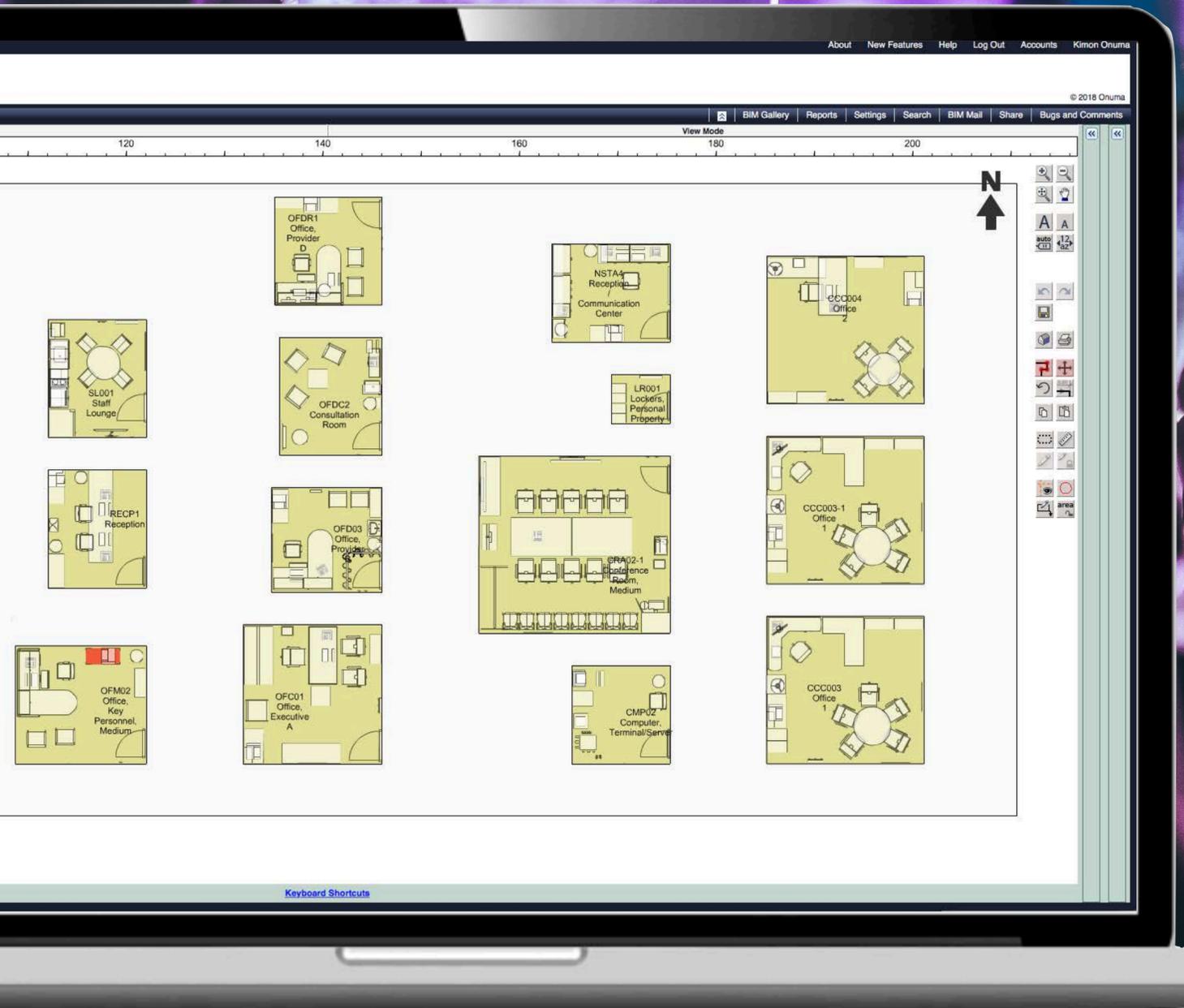
(Delete All)

Total BIM Templates

Quantity: 34 Spaces

Total Area: 10401 sf

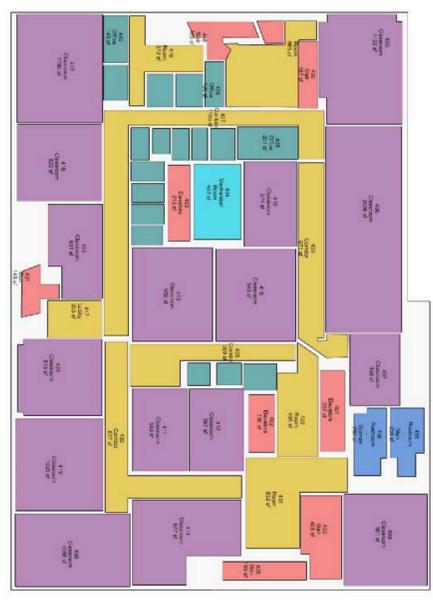
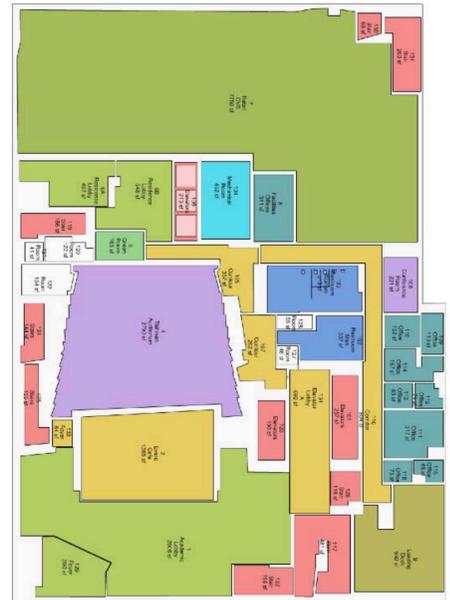
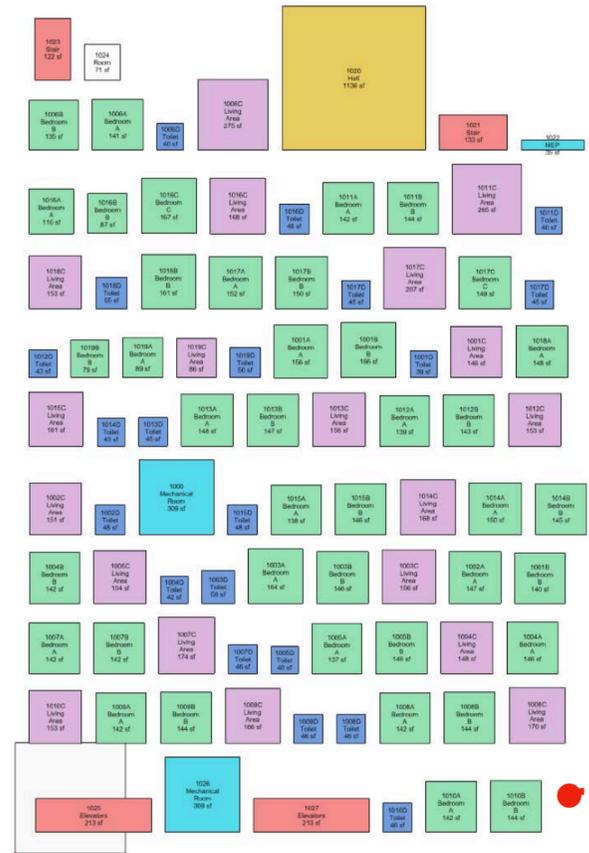
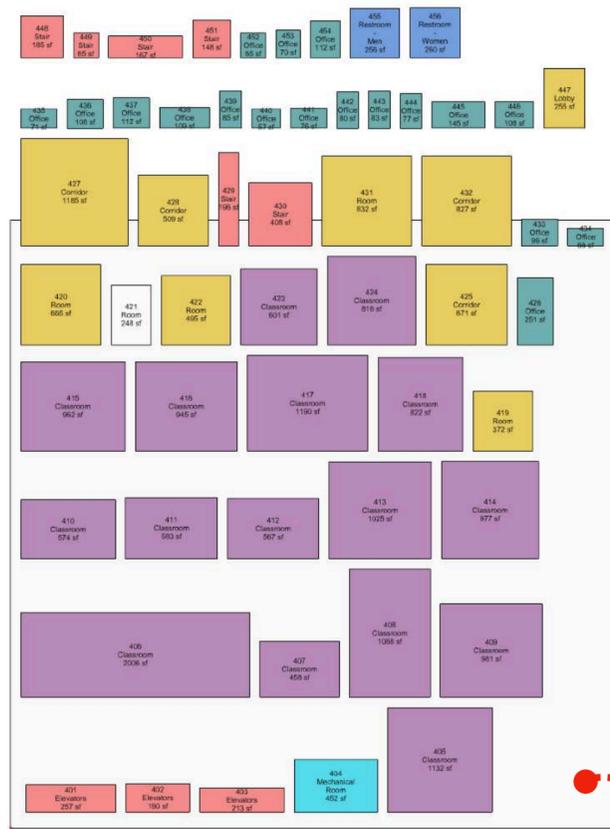
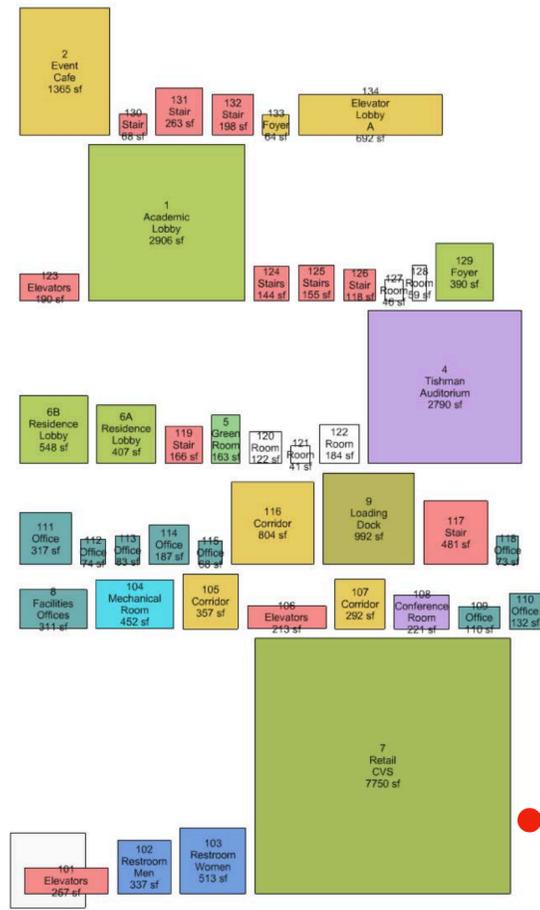
Total Equipment: 1104



2 ARCHITECT DESIGNS

Program

Design



11/2/2020
2019 2021

JUN JUL
MAY AUG
2020
APR SEP
MAR OCT
FEB NOV
JAN DEC

N38°53'0.96"

W 77°01'19.2"

New School NYC

New School Program Stack

Gray Buildings © District of Columbia (DC GIS) & CyberCity

Google Earth

Tour Guide 1949

Imagery Date: 12/19/2016 38°53'09.32" N 77°01'31.80" W elev 40 ft eye alt 859 ft



New School

Kimon Onuma

myname@email.com

Telephone (Optional)

5 AV+13 ST - New School NYC

1 Lobby / Auditorium / Retail

4 - Tishman Auditorium

Room is too hot!

(Please select request type)

Submit Work Order Request



Attach photos or files:

Upload Photo

Choose File no file selected

Choose File no file selected

BIMStorm.com/fm.html

3 FACILITY LIFECYCLE

The background of the entire slide is a photograph of a large crowd of people silhouetted against a sunset sky. The people are standing on a beach, and their reflections are visible in the wet sand. The sky is a mix of orange, yellow, and dark blue. The text is overlaid on this image in two white-bordered boxes.

ARCHITECTURE

AS A
PLATFORM

PART 5

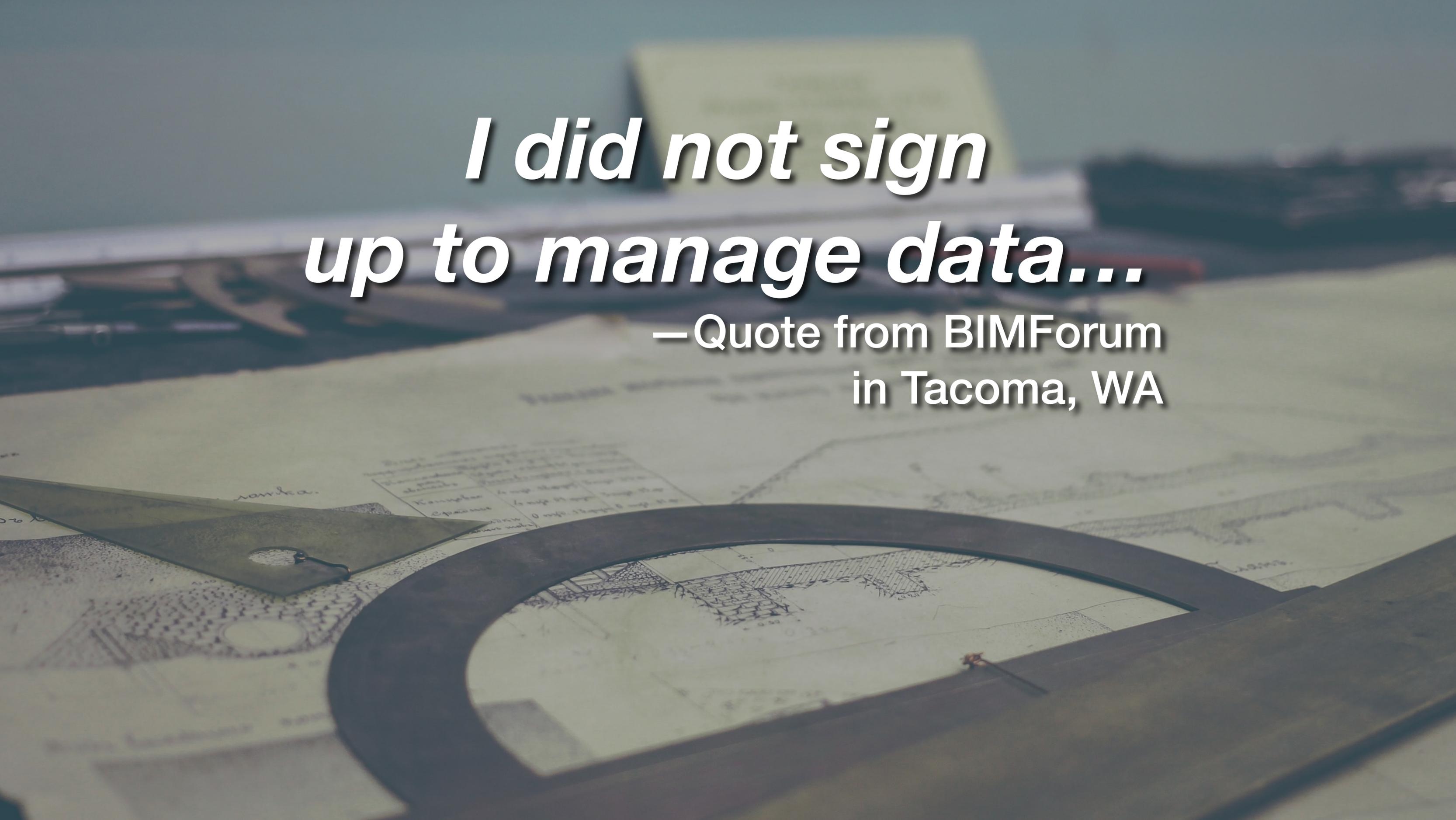
CHANGE
PEOPLE
GOING BIG

Finith Jernigan, FAIA



***Those who look only to the
past or the present are
certain to miss the future.***

—John F. Kennedy

The background of the image is a detailed architectural drawing on a light-colored paper. The drawing includes various geometric shapes, lines, and text, some of which are in Cyrillic script. A large, dark, stylized letter 'O' is superimposed over the drawing, centered in the lower half of the frame. The overall lighting is soft and slightly desaturated, giving it a professional and artistic feel.

***I did not sign
up to manage data...***

**—Quote from BIMForum
in Tacoma, WA**

INDUSTRIAL REVOLUTIONS

1

**Age of
Steam**

c. 1784

Water & Steam Power
Mechanize Production



2

**Machine
Age**

c. 1870

Electric Power Creates
Mass Production

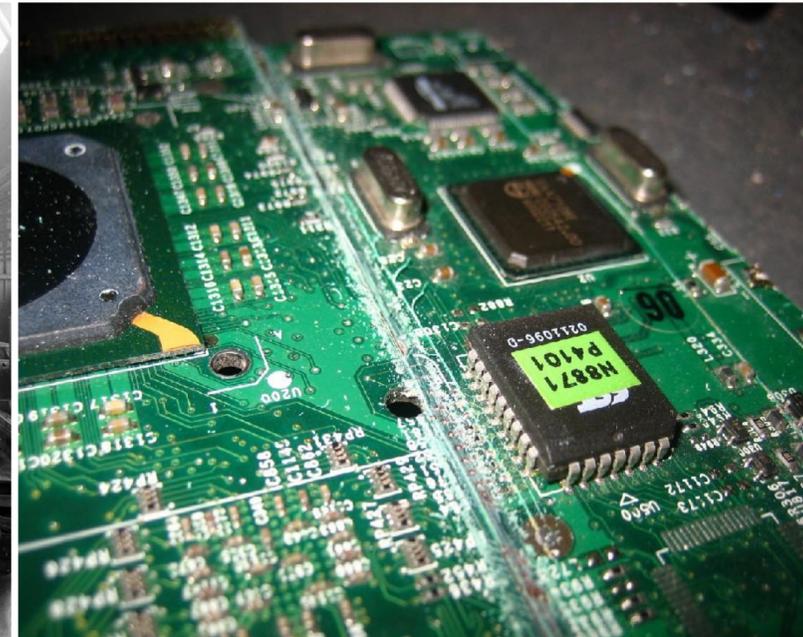


3

**Information
Age**

c. 1945

Electronics & IT
Automate Production



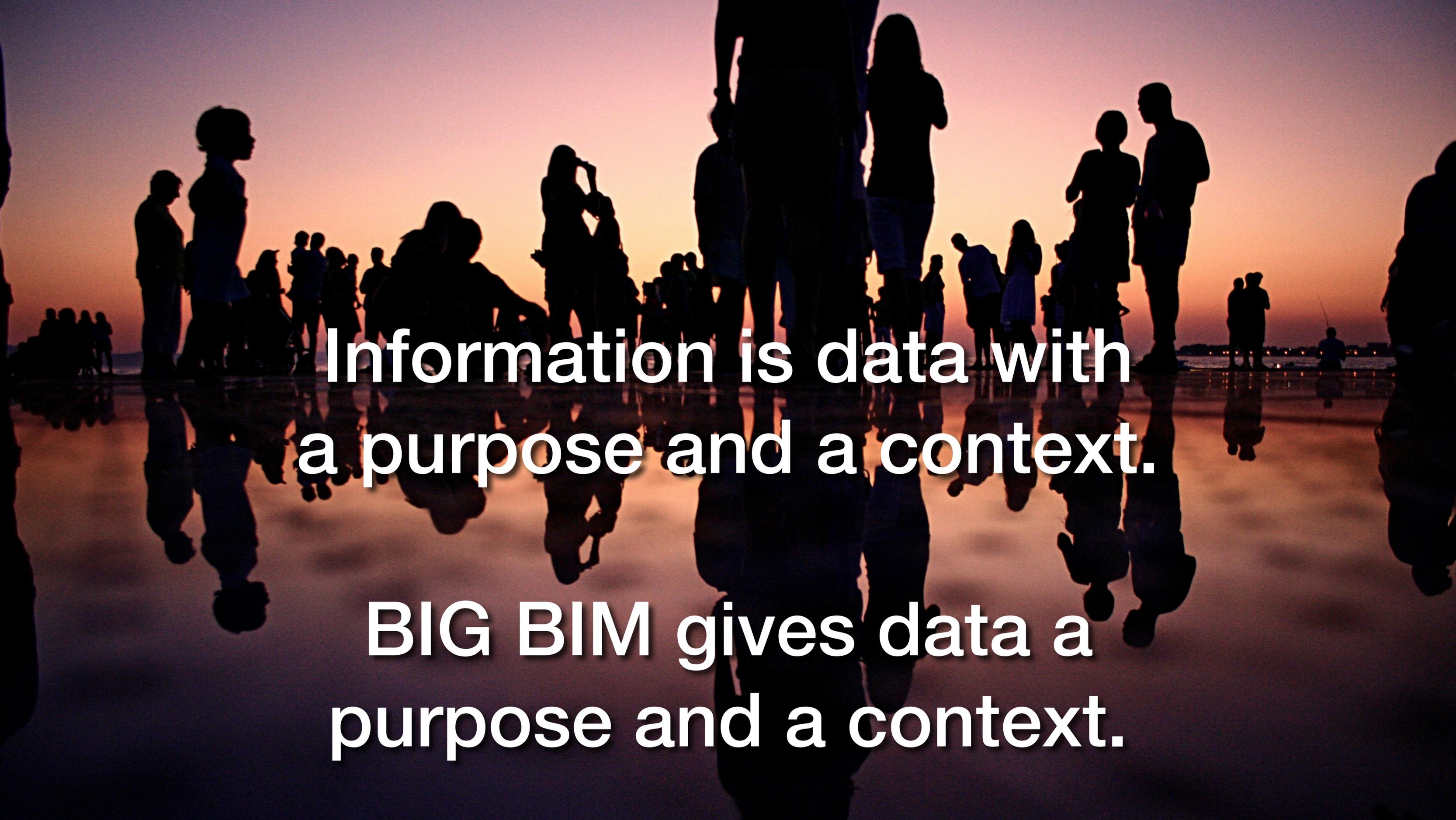
4

**Connected
Age**

c. 2008

Technologies Fuse,
Blurring Lines Between
Physical & Digital



A large crowd of people is silhouetted against a bright sunset sky. The scene is reflected on a wet surface, likely a beach or a wet plaza, creating a mirror image of the people and the sky. The overall mood is serene and communal.

**Information is data with
a purpose and a context.**

**BIG BIM gives data a
purpose and a context.**

12,187,910

44x growth in technical data since release of iPhone



Information Age

Connected Age

10

1992
little-BIM

16

1995
GPS

64

2003
Genome

225

2006
BIG-BIM

342

2007
iPhone

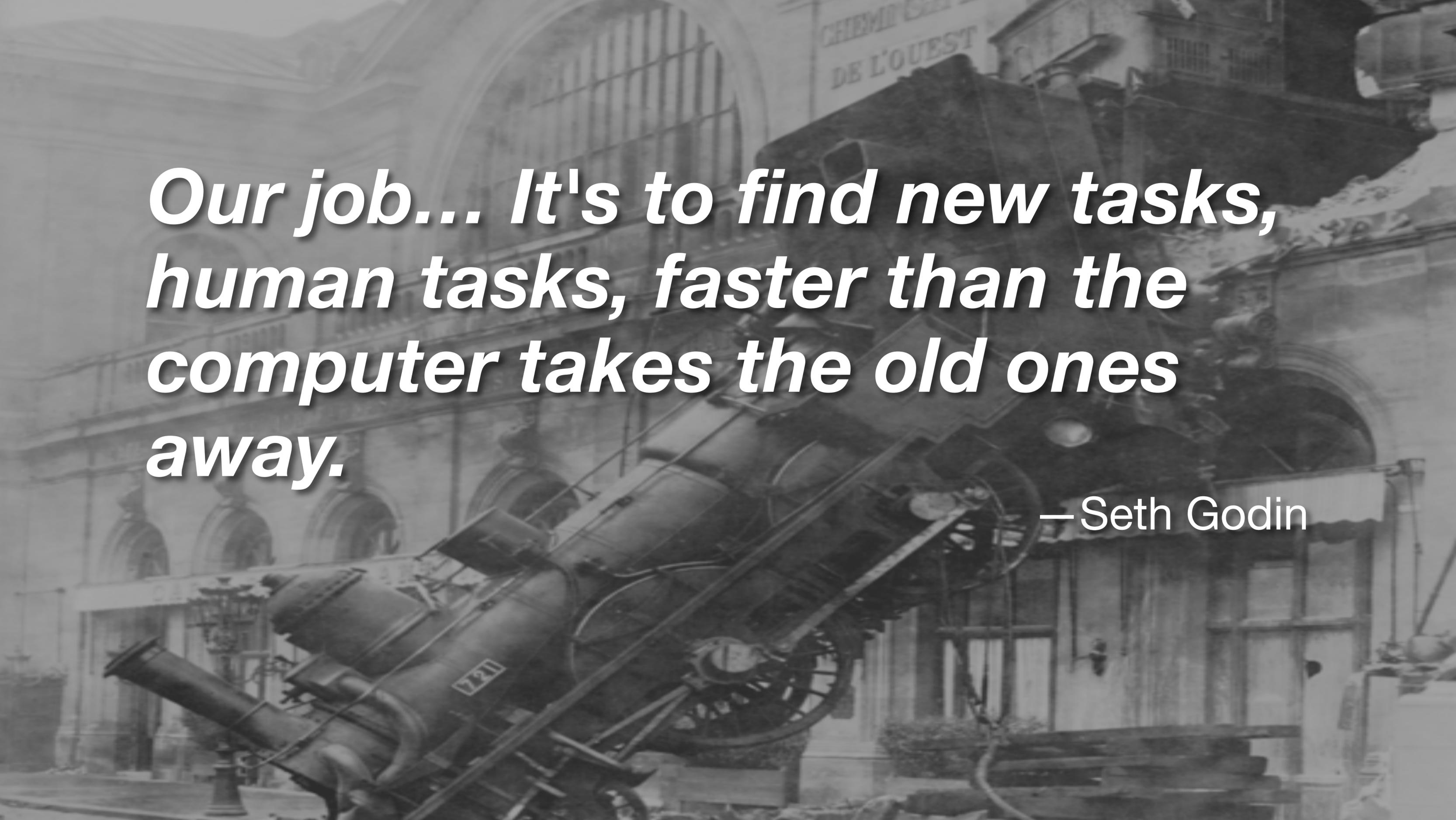
2,508

2012
EcoDistrict

22,570

2015
iFM

2020
IoT



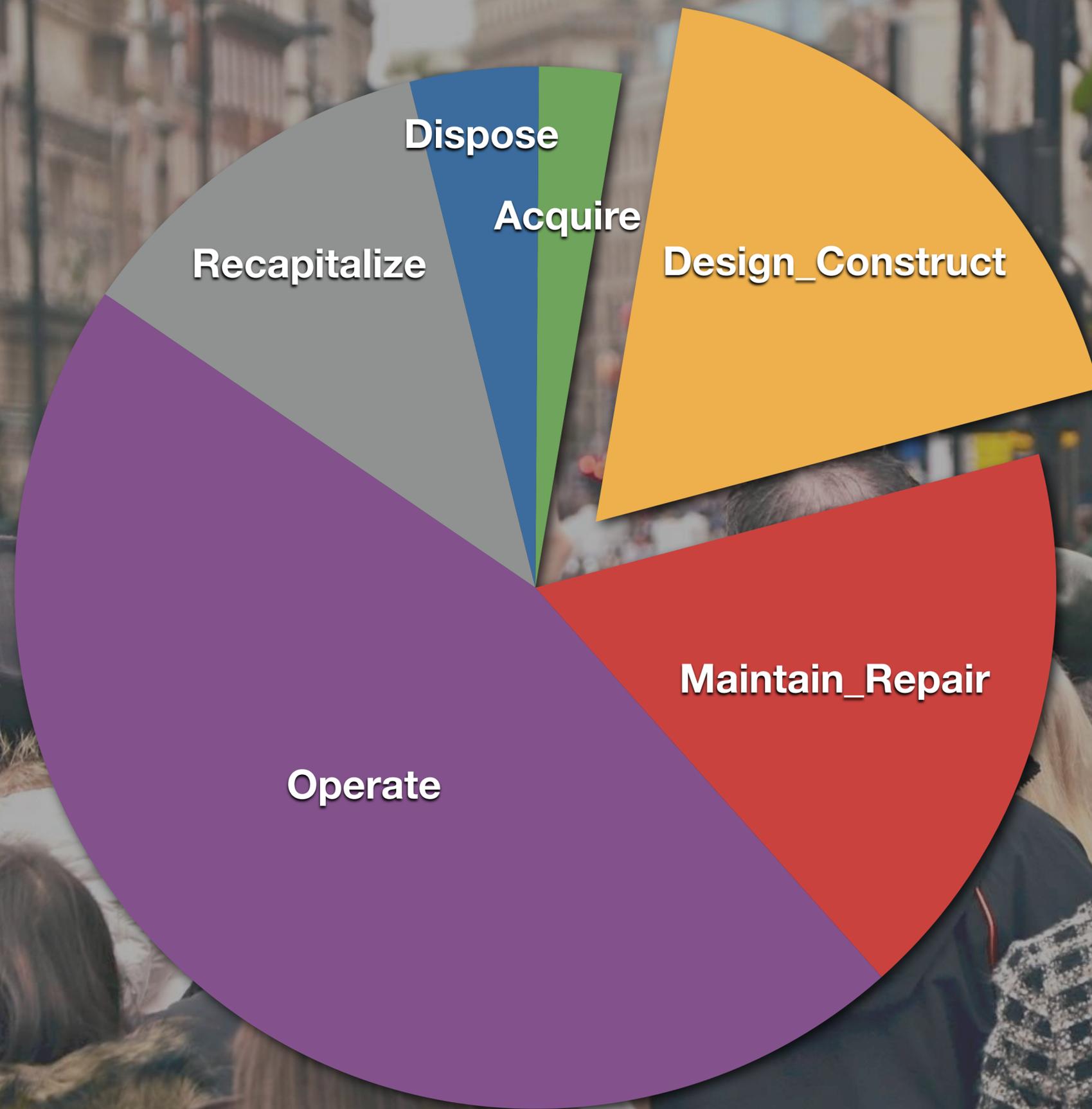
***Our job... It's to find new tasks,
human tasks, faster than the
computer takes the old ones
away.***

—Seth Godin

VISION

Of the Future





Design_Construct

Maintain_Repair

Operate

Recapitalize

Acquire

Dispose



**little-BIM increases
efficiency and leverages
our abilities.**

**BIG-BIM ties
everything
together.**

Τέλος

***There's one thing only a human
can do. That's dream.
So let us dream big.*** —Garry Kasparov

MANIFESTO

For The Profession's Future

**Frequent, High Volume Tasks
(likely to move to machines)**

**Tasks That Tackle Novel Situations
(likely to need humans)**

PASSION LED US HERE

STEP 1

7.20.18

Build Platforms Results

Webinar
Sign Up!
BIMStorm.com

Contact Information

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<https://www.linkedin.com/in/finith>

Kimon Onuma, FAIA - ONUMA.com

@KimonOnuma

<https://www.linkedin.com/in/kimononuma/>

Thank You!

