



Urbata

“We simply must know what we are
putting into our buildings”

Dr Joe Allen, *Healthy Buildings*

BPU

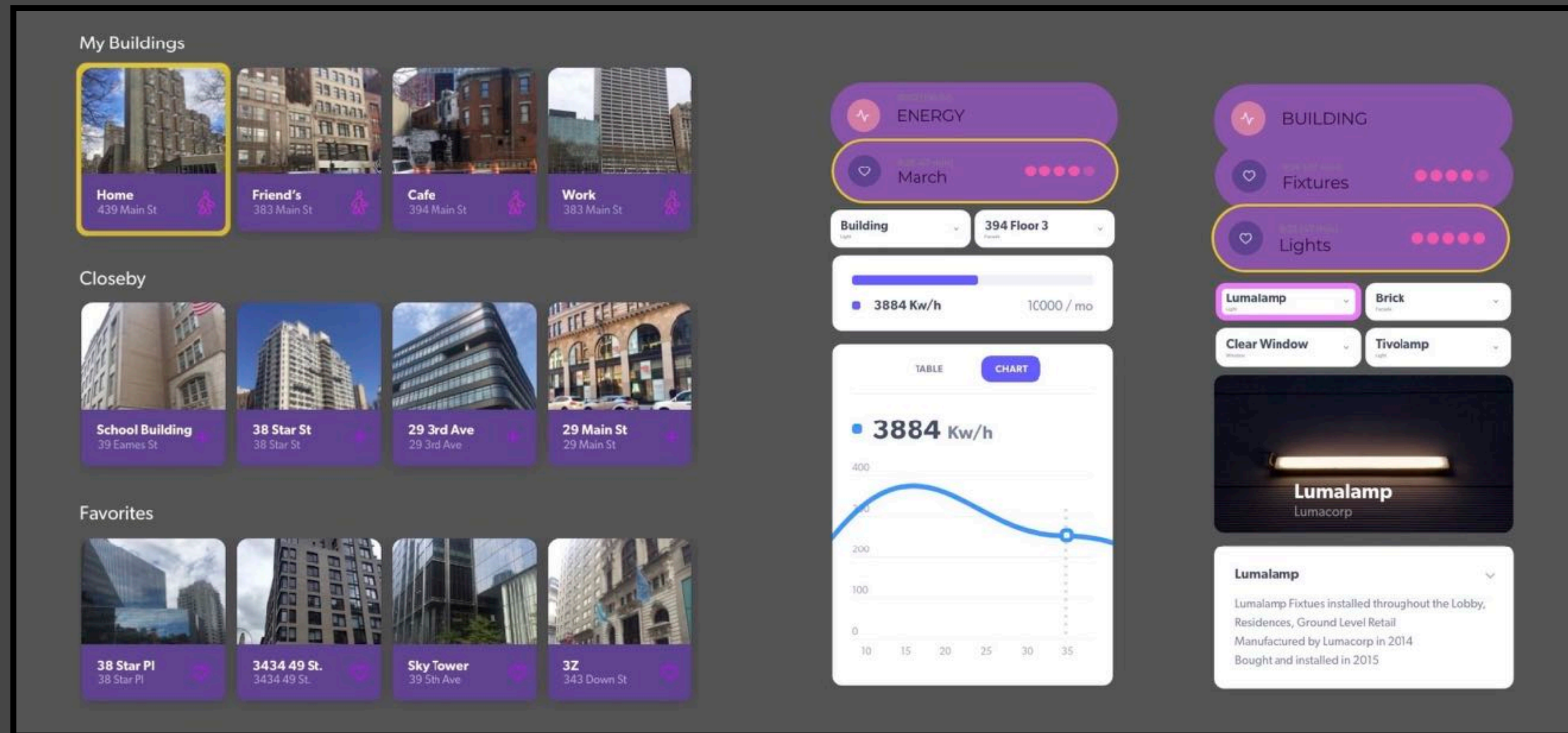
The Building Profile Utility (BPU) *integrates, facilitates and anchors* accessible building ecosystem, products, data, AI, AR in a scalable, plug-in database/interface platform – connecting user to building data categories on an urban grid: space, use, system, energy, health, site, transit and design.

Activating the full building energy and health ecosystem, by design



Design

BPU: Building Profile Utility

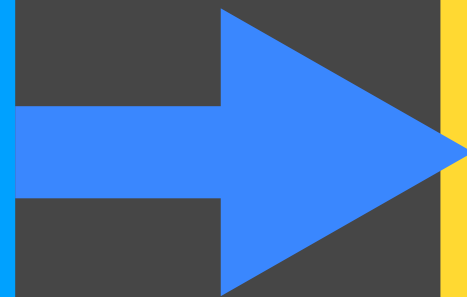


Accessible and integrated building health, energy, systems, use

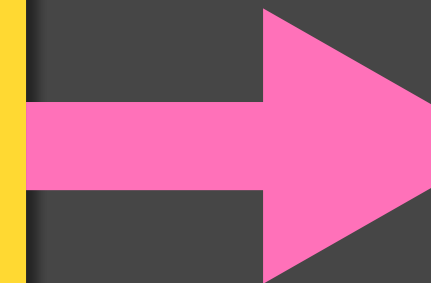
BPU



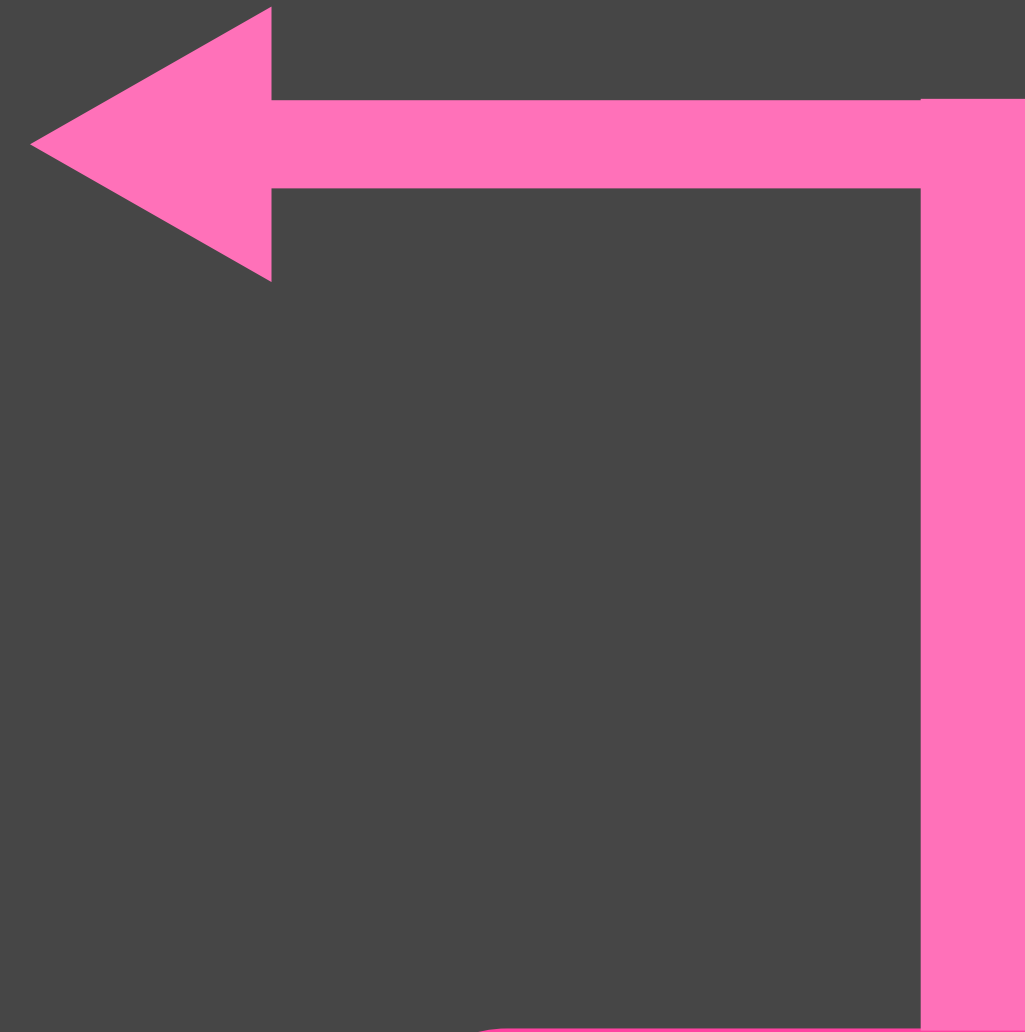
Building
Owners
Users
Government



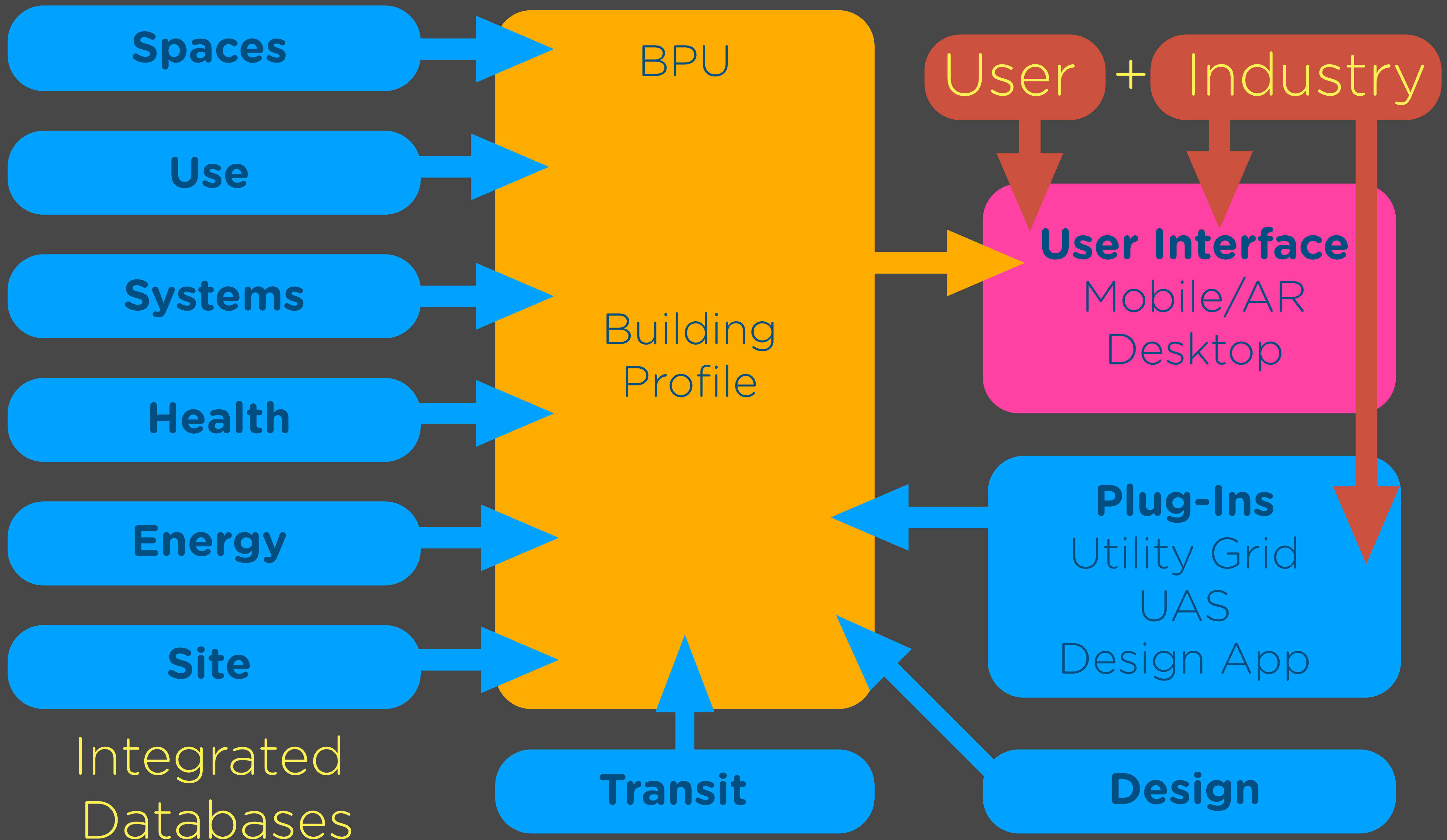
Designers
Engineers



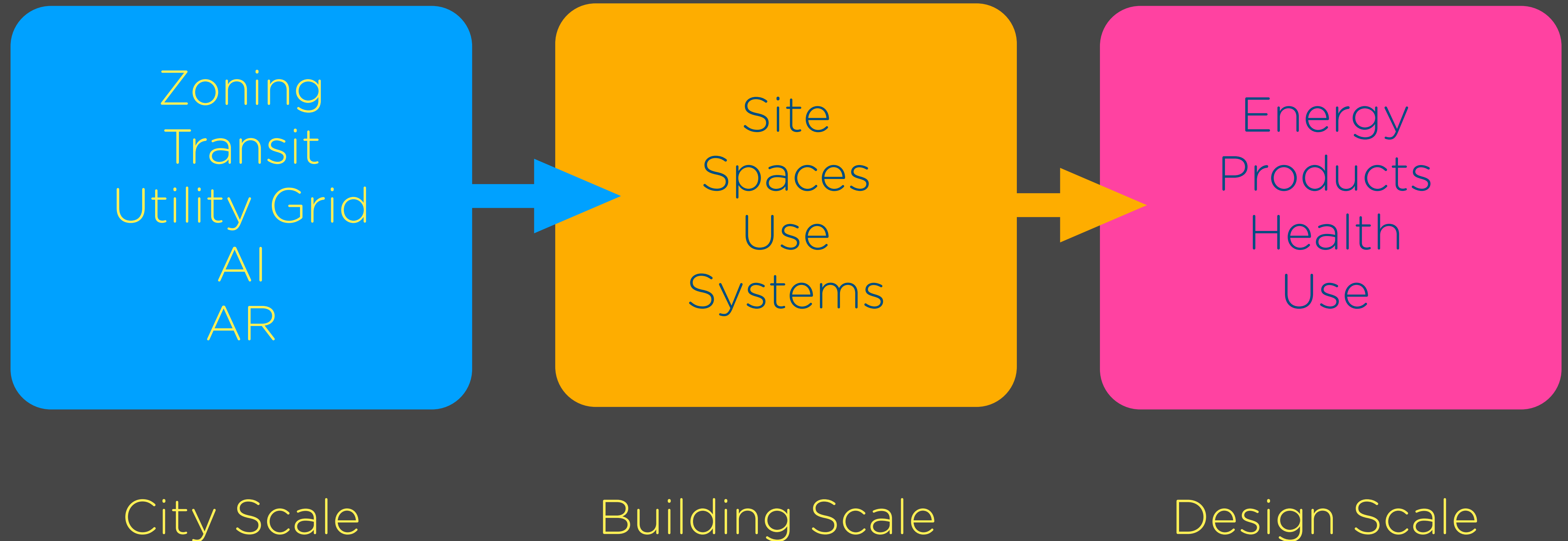
Distributors
Tech
Products



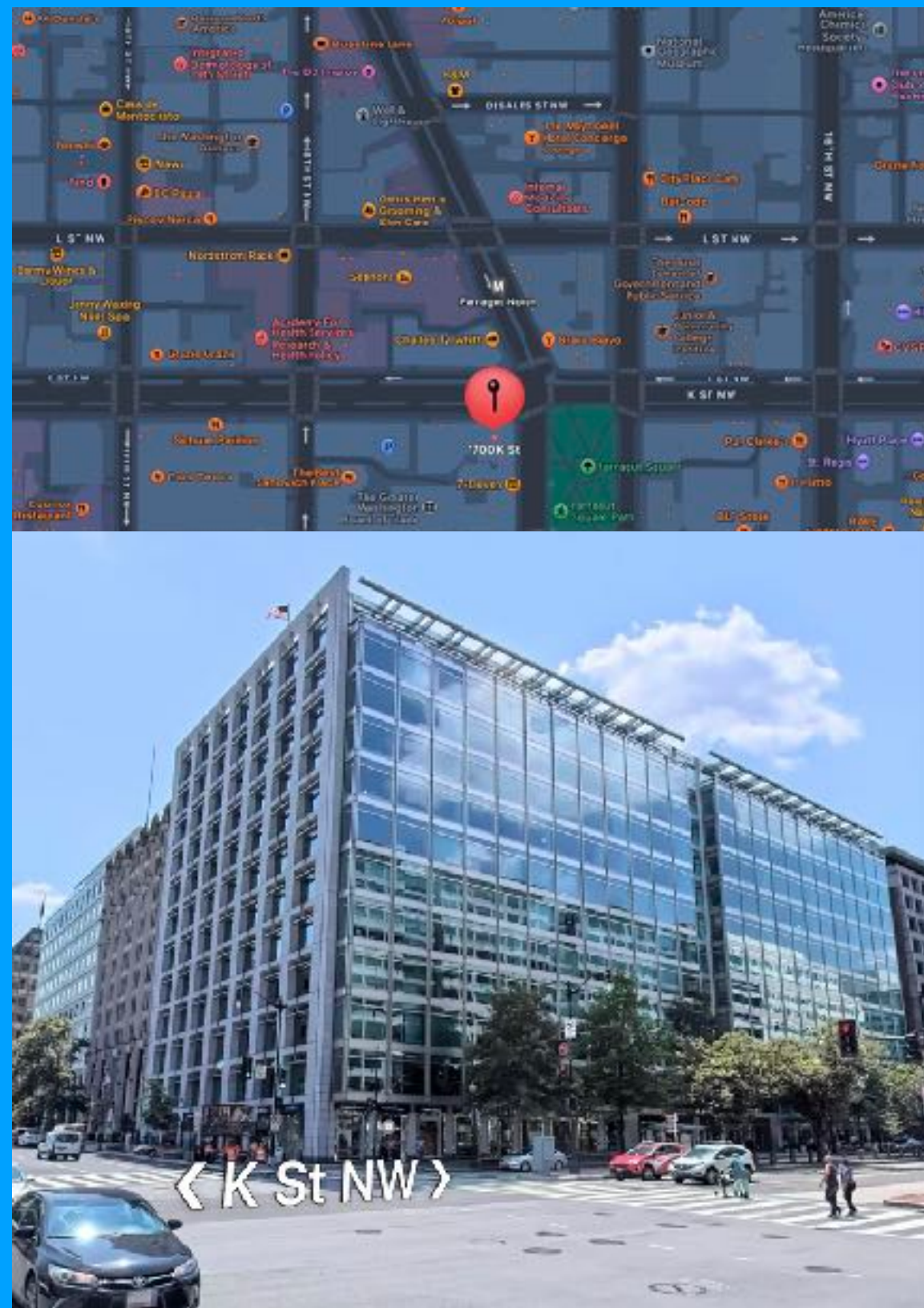
Designer Focus



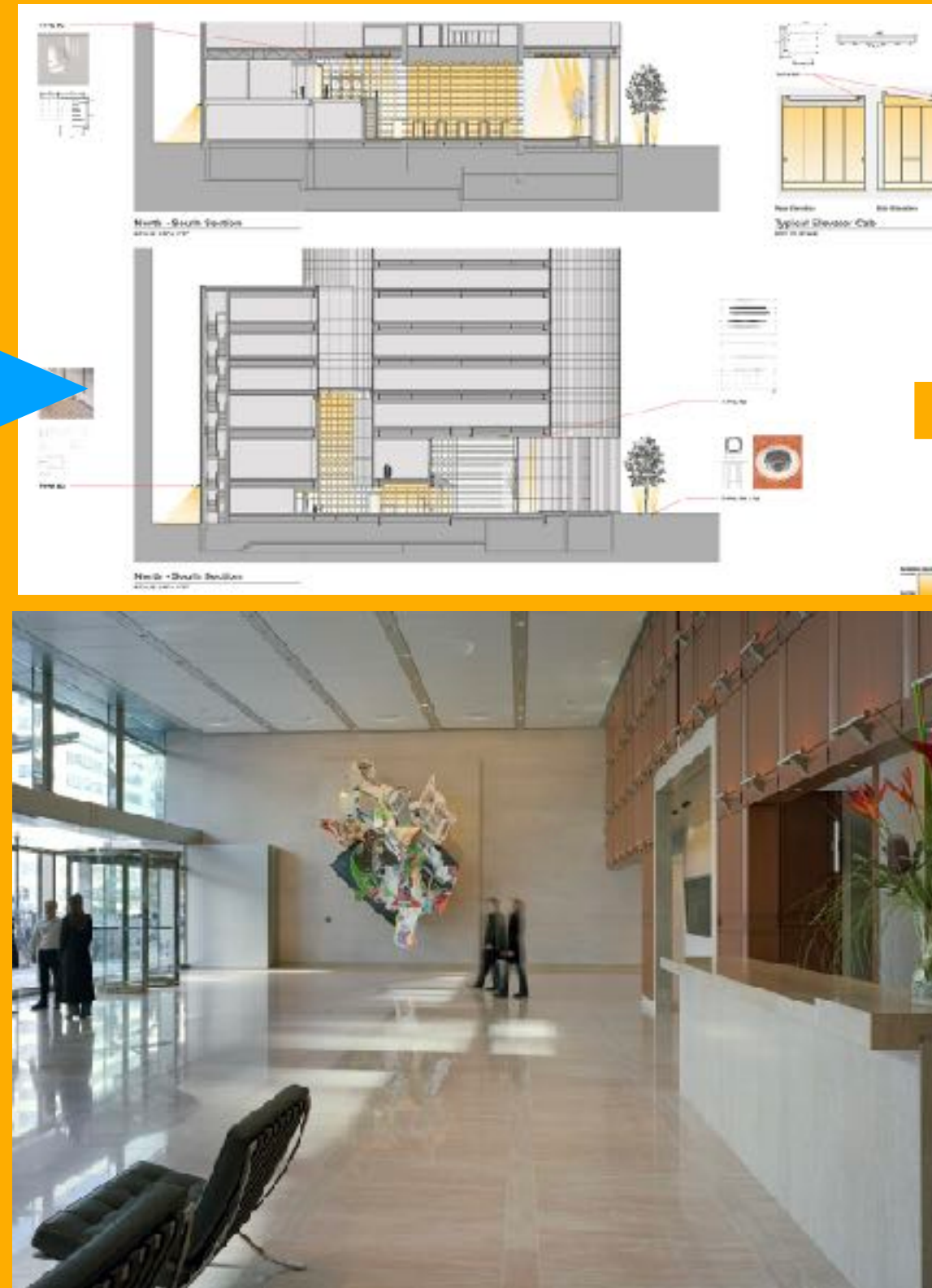
BPU: Integrated Scales



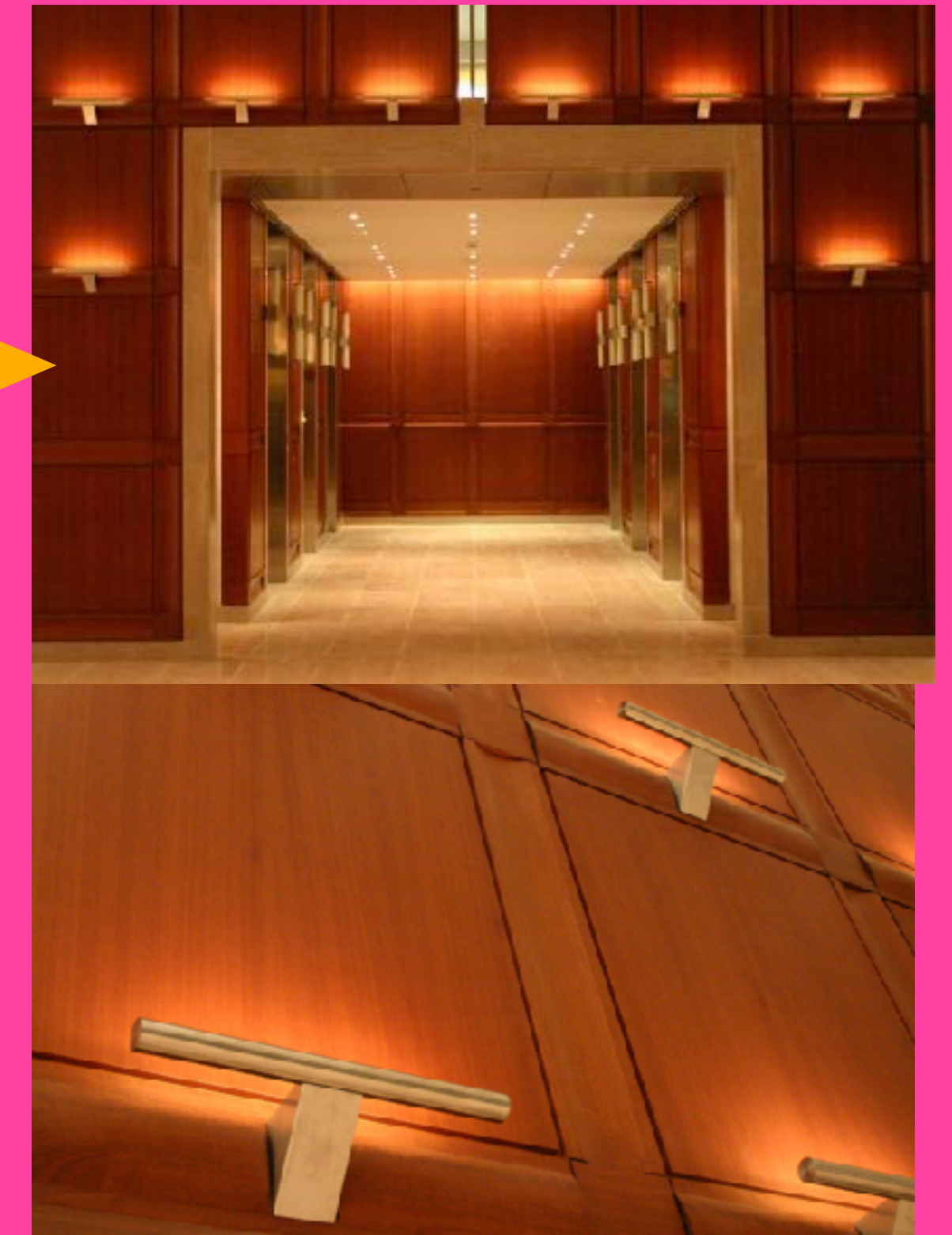
BPU: Integrated Scales



City Scale



Building Scale



Design Scale

Integrative Building Profile Utility

Building Hardware to Database to Interface

City
Site

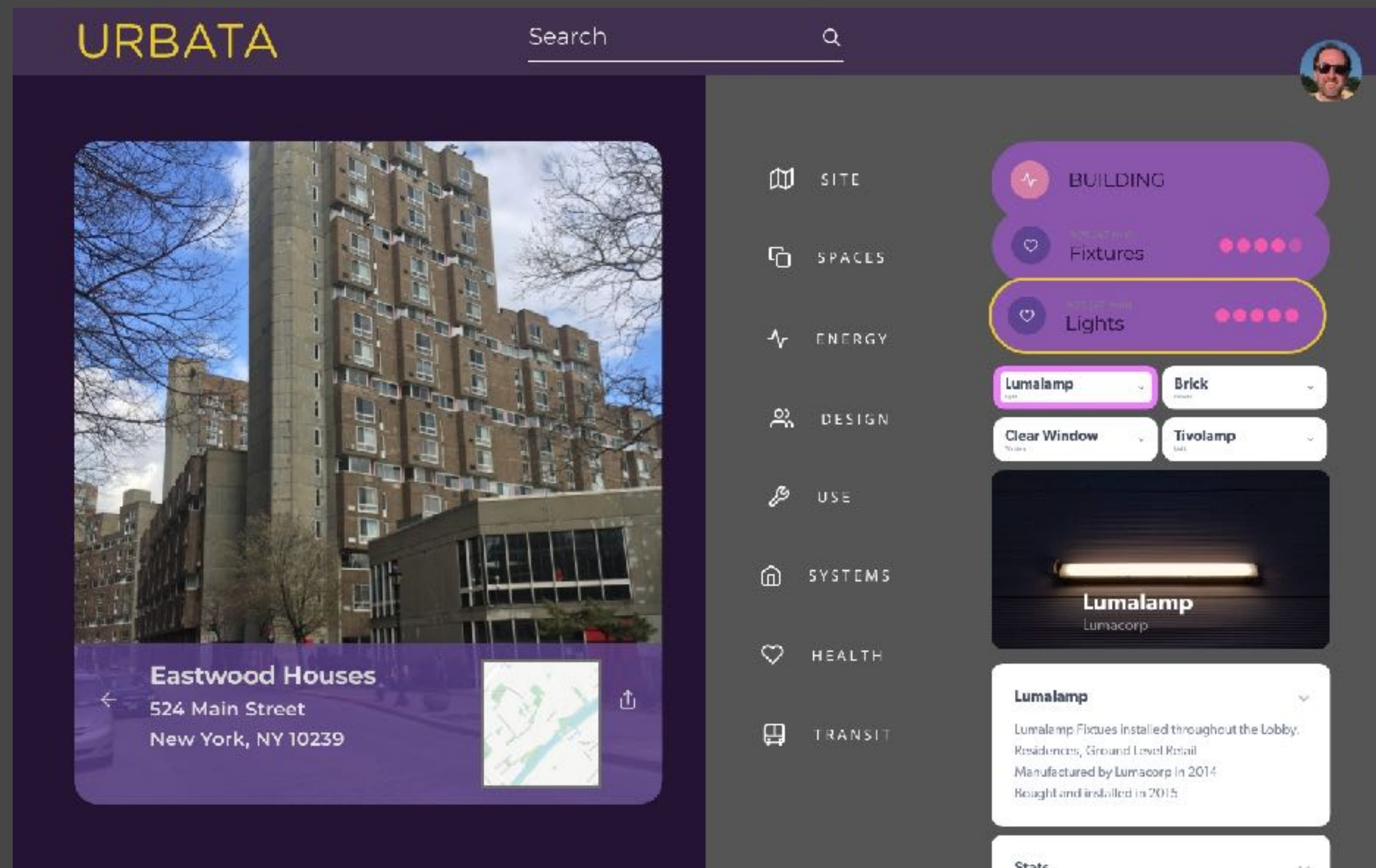
Lighting
HVAC
Materials
Solar
Geothermal
Smart Tech

Energy
Health
Use
Systems
Site
Transit
Space

Mobile
Desktop
AR
Wearable
Transit
AI

Urbata BPU

Building Profile Utility



Accessible and integrated building health, energy, systems, use

BPU: Elastic Plug-In System

Simple

Lighting

HVAC

Materials

Plumbing

Appliances

Furniture

Solar

Geothermal

Services

Building Maintenance

Energy Utilities

Government

Architecture

Planning

Smart Tech

Advanced

Grid Interactive Buildings

New Prop Valuing

WELL - Air, Light, Water

Drone

Geothermal Share

Health Zoning

Water Clean

Health Zoning

AirLightWater

UrbAR

UrbanAI

BPU: Building Profile Utility

Clayton Besch, Director at NYS ESD Venture Tech

Quote

“your platform will generate 10x return as scalable software platforms are the investment du jour. When you find one let me know and we can consider co-investing.”

Accessible and integrated building health, energy, systems, use

Urbata Inc.

Leadership

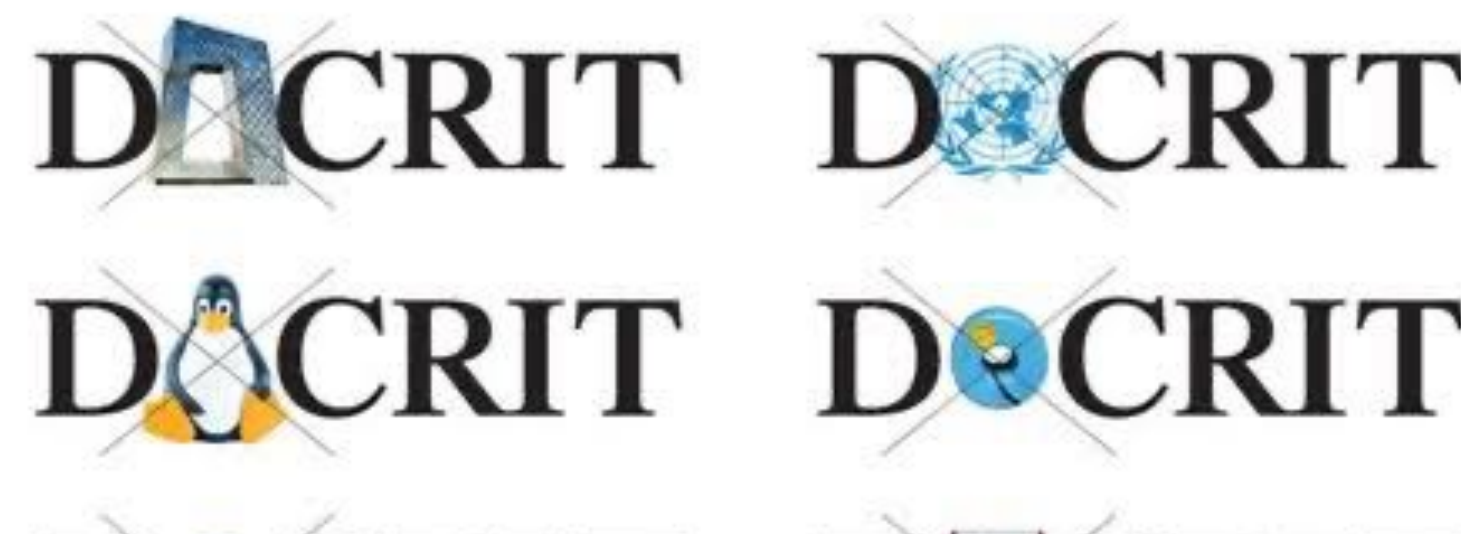


CEO + DESIGNER: Urbata Design Lab, Architizer, RDG Inc (architecture + light), SVA NYC Design Criticism, Washington University in St. Louis

CFO and MANAGER: Legacies, Icahn Enterprises, Centro Escolar University, Systems Technical Institute

Urbata Inc.

Design Partners



Urbata Inc.

Integrated Design

Design + Architecture + Urbanism

Human Scale > Building Scale > City Scale

Design Matrix

Health
Systems
Use
Energy
Transit
Site
Spaces
Design (history)

SMALL



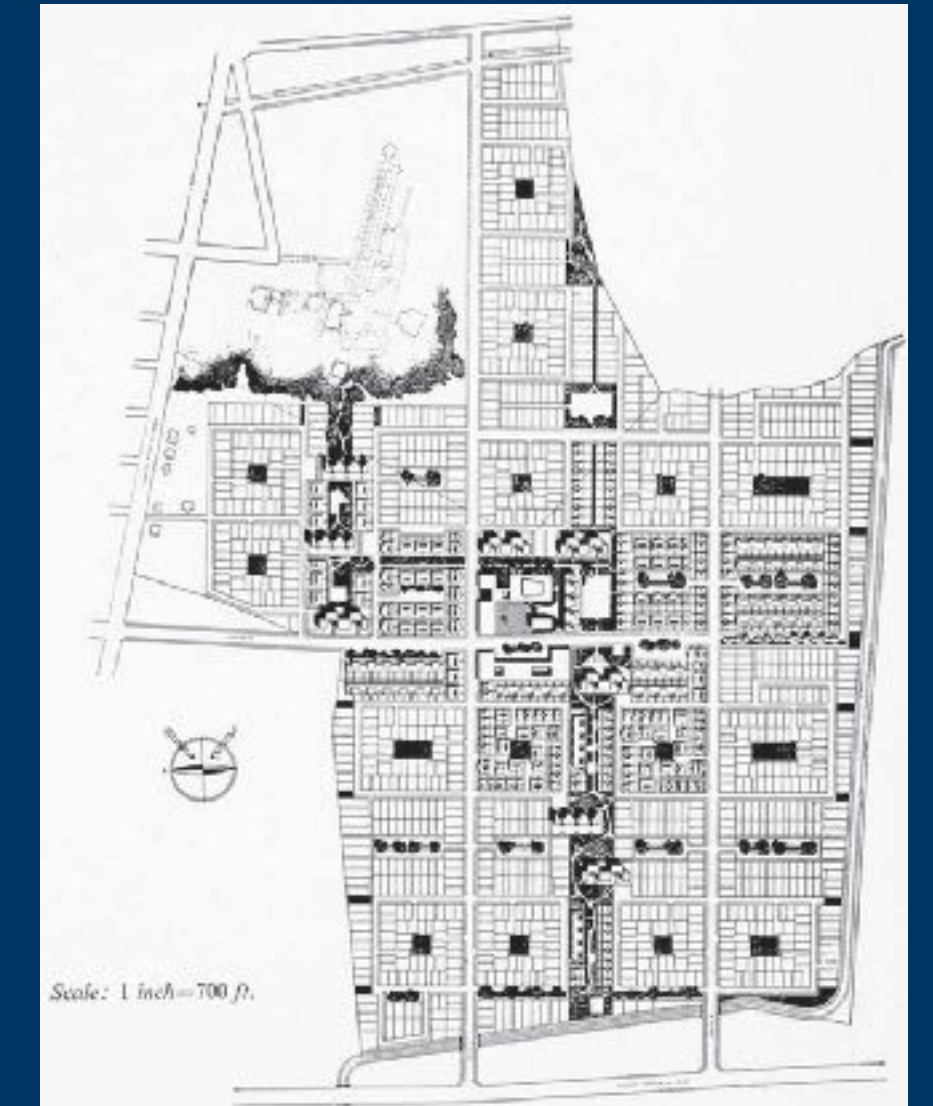
Sears Coldspot
Ramond Lowey
1935

MEDIUM



Lever House
SOM
New York, 1950-52
MoMA Archive

LARGE



Quinta Palatino Subdivision
Town Planning Associates
Havana, 1954
Designing the Modern City, Mumford

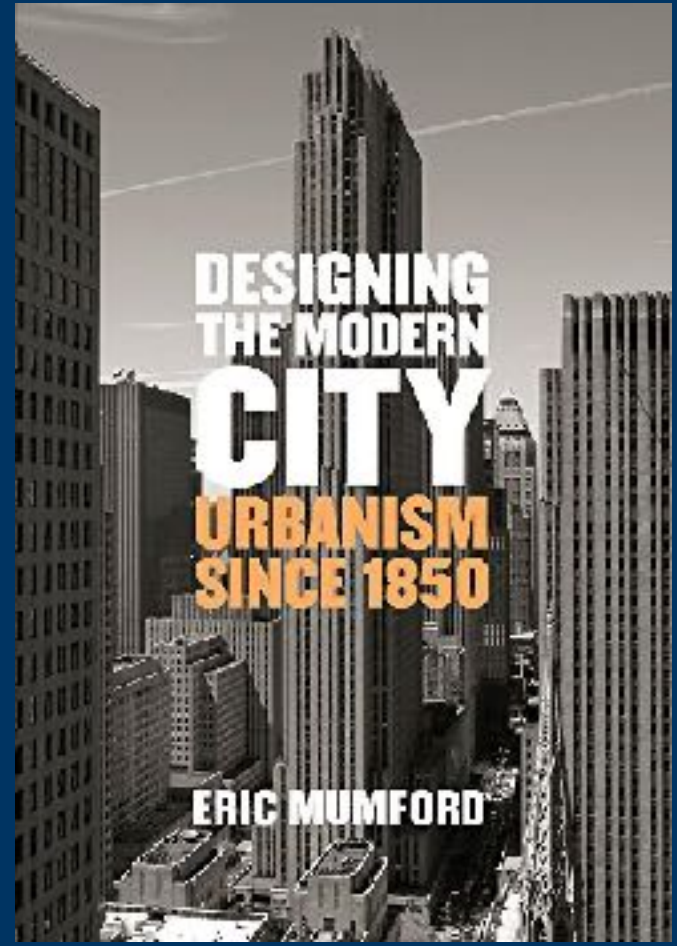
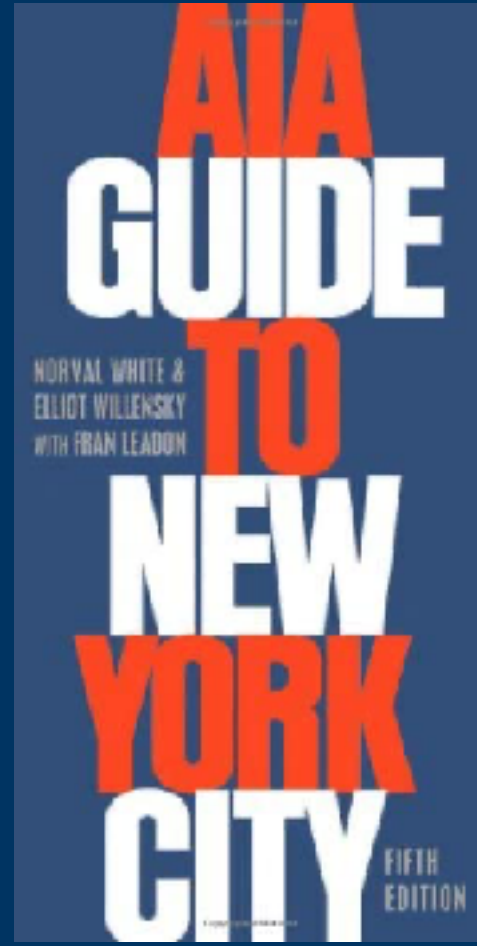
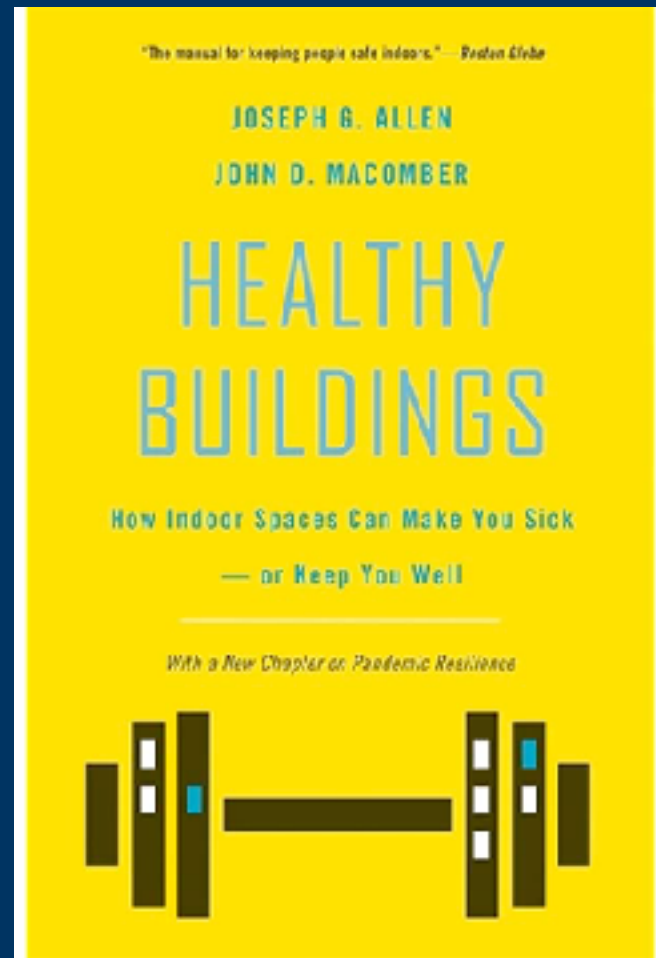
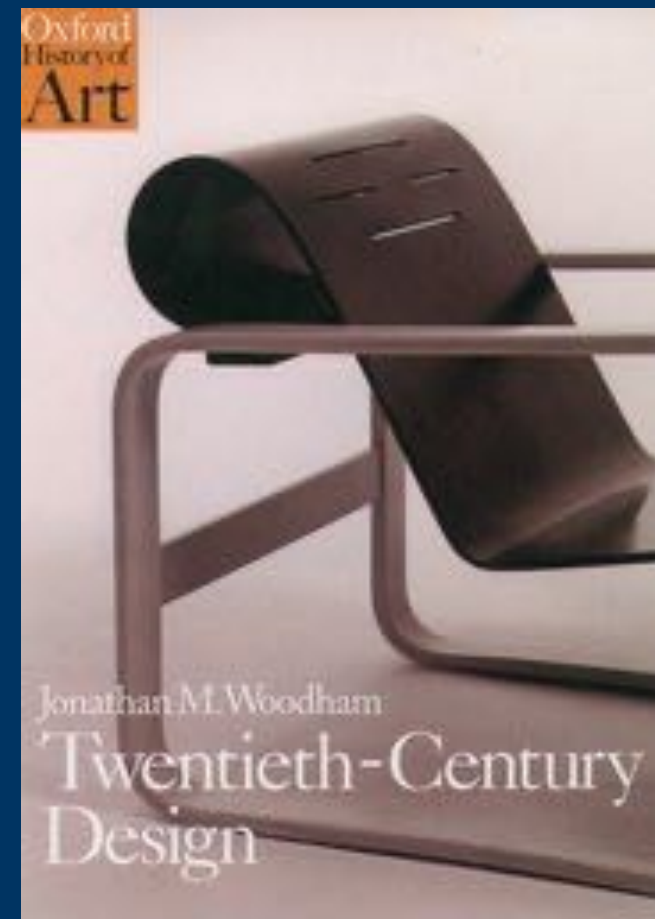
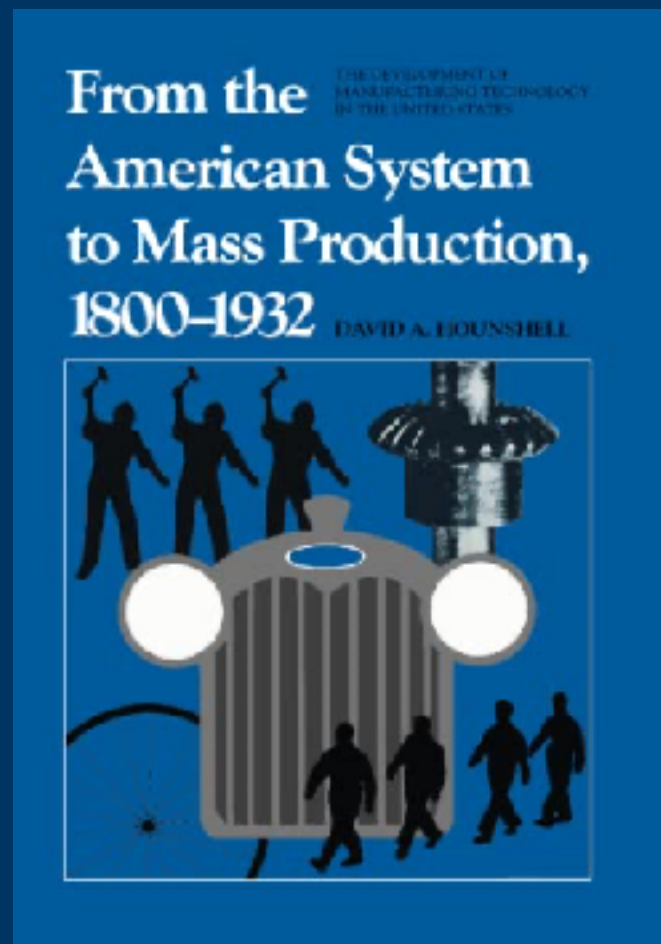
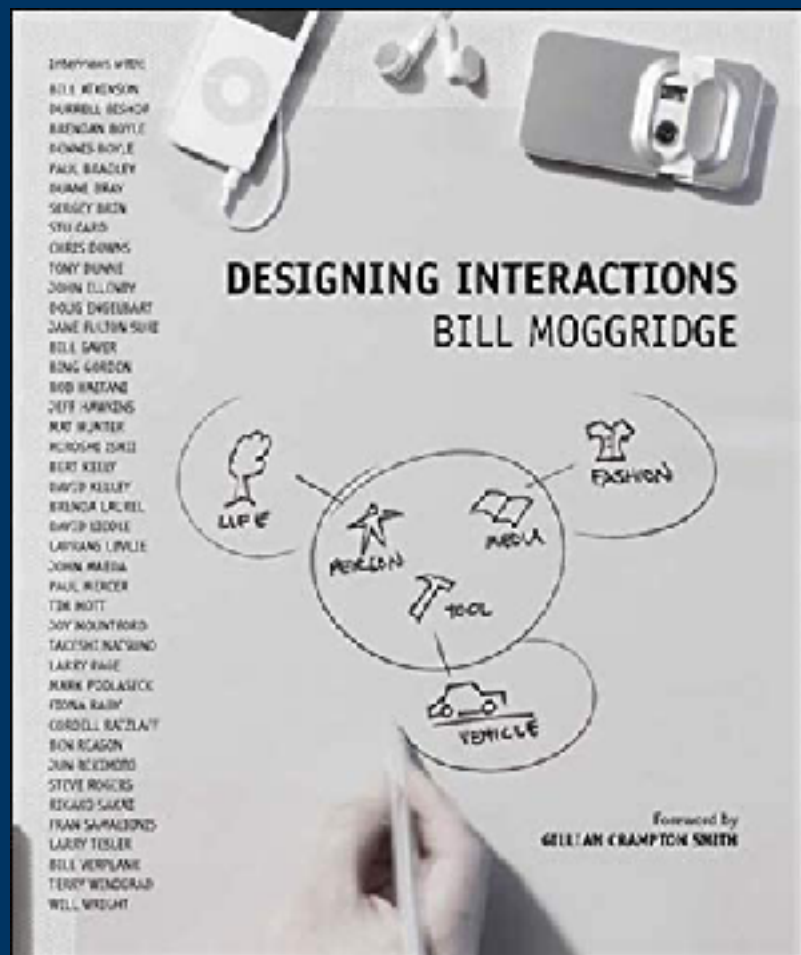
Human (Design)

Building/Site (Architecture)

City (Urbanism)

Scale

Design Library



Design

Buildings

Urbanism

Design = Usable Complexity

Apple - Usable PC and Mobile

Braun - Minimal Product Design

Kohler - Usable Fixtures and Appliances

Carrier - Healthy Buildings

Tesla - Electric Car Infrastructure

URBATA - Integrated Building Design Ecosystem

Making Visible the Invisible



Power Aware Cord by Static!

Design Values

“Design is a plan for arranging elements in such a way as to best accomplish a particular purpose”

Charles Eames, *Eames Office*

Constraints, Purpose, Organization, Recognition, Problems



Impact

Key Problems

BIG PROBLEM: fragmented and inaccessible building data, lack of product anchors in urban grid, poor design in technology

IMPACTS: (buildings) Energy inefficiency, Operational costs, Aging infrastructure, Poor building Health, Environmental impact, Lack of standardized, maintenance practices, Technology adaptation, Regulatory compliance, Lack of skilled workforce, Inaccessibility (UAS) missing site/building data, product testing, building apps

Lack of cross-industry data organization & integration

Benefits and Impact

- Sustainability and retrofits
- Building construction sourcing
- Building maintenance efficiency
- Building data accessibility
- Building health (air, light, water)
- Community integration
- Building Performance
- Building product / local economic growth
- Building product development and testing
- Urban design and development

Building Stats

Buildings make up 40%+ of carbon emissions and energy, in operation and construction (US EIA 2020)

Full-scale digitization could save \$1.2 trillion in the Design & Engineering and Construction phases alone. (Propeller Aero)

Majority of buildings in the US are not LEED certified. Very few are WELL certified (Construction Physics)

Increasing ventilation to double the ASHRAE recommended value could increase cognitive performance by anywhere from 2 to 10%. (Dr Joseph Allen)

Because there are thousands of local governments across the US, there are thousands (an estimated 20,000+) of permitting jurisdictions (Construction Physics)

Building Stats 2

100 million single family homes (SFH).

5.2 million multifamily residential buildings with 40 million housing units.

5.5 million commercial buildings.

350,000 industrial buildings.

240,000 military buildings.

111 million buildings total

(Per the 2019 AHS, the 2012 CBECS, the 2014 MECS, and the 2017 Base Structure Report. Construction Physics Substack)

Modern housing uses substantially less energy than older housing on a per-square-foot basis. A 50-year difference in house age translates to roughly a 50% reduction in energy use (Construction Physics)

Regulation was responsible for about 25% of the sale price of the average new home (NAHB)

Construction Stats

- 1: Nine out of ten projects experience cost overrun
- 2: In three years studied, only 31% of all projects came within 10% of their budget
- 3: Large projects take 20% longer to finish than expected, and are up to 80% over budget
- 4: Construction material costs rose by 10% in 2019
- 5: Poor communication is the root cause of project failure one third of the time
- 6: 45% of construction professionals report spending more time than expected on non-optimal activities
- 7: 35% of construction professionals' time is spent on non-productive activities
- 8: Productivity changes could save the industry \$1.63 trillion per year
- 9: 75% of construction companies provide employees with mobile devices—but only 21.7% actively use mobile apps
- 10: 61% of respondents report that technology reduced project error

(Propeller Aero)

Urbata Design

Fragmented Building and Urban Ecosystem

Key Issues: Massive quantities of buildings, little organization, integration, standardization of industries and technology — leading to high costs and low efficiency

Challenge: plugging in and integrating the fragmented and gatekeeping building/urban industries into a trusted and accessible design platform that incentivizes use and openness

BPU: Integrated Building Markets

Sample Plug-In Data Clients

Spaces: Real Estate (Compass, Empire State Development), Economic Development (CenterstateCEO), Government (City of Syracuse)

Use: Maintenance Services, Architects (AIA), Government (City of New York), Security (SimpliSafe), UAS (TechGarden)

Energy: Retrofit (Carrier), Utilities (National Grid), Startups (SunCity Solar), Smart Meters (DTE)

Systems: Architects, Products (SyracuseCoE, Company Urban Tech), Lighting (Columbia Lighting), HVAC (Carrier)

Health: ASHRAE, WELL, Carrier, Syracuse CoE, City of NYC, State of New York, Smart Meters (Amazon, REED, Moen)

Site: Government (Zoning), UAS (TechGarden), Architects (AIA), NYC Department of Buildings

Transit: NYC Planning, Urban Tech (Company Ventures, Urban-X), U.S. Department of Transportation, Google Maps, Apple Maps

Design: Furniture Companies (Design within Reach), NYS Historic Preservation, Architects (AIA), NYC Department of Design (Public)

Thesis

To bring accessibility to a fragmented building and urban tech ecosystem....

Designing an organized, integrated platform to illuminate and anchor building data, systems, products and health in the urban grid

With real-time, verified sourcing, community management, and product and data matchmaking.



BPU

Plan

Target Markets

BPU at 1% matching capture in USA

Energy - Energy retrofit (\$69B by 2030, US) = \$690m

Design - Building materials (\$273B, US) = \$2.7B

Systems - HVAC Industry (\$30.4B, US) = \$304m

Systems - Lighting fixtures (\$12B, US) = \$120m

Design - Furniture industry (\$130B, US) = \$1.3B

Design - Architecture services (\$86.4B, US) = \$864m

Use - Building maintenance (\$30.4B, US) = \$304m

Health - Smart building tech industry (\$32B, US) = \$320m

UAS Market - Unmanned Aerial Systems (14.4B, US) = \$144m

Smart City AI - Urban Intelligence (\$244B, US) = \$2.4B

PropTech - Real Estate Technology (47B by 2030, US) = \$470m

Energy Utilities Market - Microtransaction at .1% (\$1.1T, US) = \$1.1B

Total BPU/Yr in USA = \$10.7B

Source: Statista, FutureMarketInsights, AlliedMarketResearch, FortuneBusinessInsights, MordorIntelligence, BusinessWire

Market in US

100 million single family homes (US)
(205.2 billion square feet)

5.2 million multifamily residential buildings (US)
(35.9 billion square feet)

5.5 million commercial buildings (US)
(87.1 billion square feet)

350,000 industrial buildings (US)

240,000 military buildings (US)

340 billion square feet total (US)

Business Plan

Value: 2-sided, integrated building product/data ecosystem

Capture: % of product/data transaction, cost savings

Industry

Product Broker: Building industry, products (UAS), Systems at 3% match

Micro-transaction: Energy Utilities, GovData, Urban AI, AR at .5% of match

Consumer

Freemium: Community, Citizens, Designers

Subscription: Heavy users at \$25 per 100 buildings after 15

Break/Even = scalable, lightweight software / gov partners = 0 debt

Data Networks

Over 100 partners sourced

Utility Partners (NYS ESD)
Building Tech (Syracuse CoE, Company NYC)
Architecture industry (AIA)
UAS industry (TechGarden)
Urban and Smart Tech (New Lab, Urban-X)
City Government (NYC DOB, Syracuse)
Regulation Data (ASHRAE, WELL)
Historic Preservation Databases (NYS, AIA)

Accessible, scalable platform incentivizes use, savings and
sourcing

Competition = Traction

DOE EPIC Buildings Accelerator

Over 100 partners mapped

[Syracuse COE, Company Urban Tech NYC, etc]

NSF, DOE projects pending

Utility Patent Pending

Cornell Tech Urban Tech Hub

Sidewalk Labs

NSF: POSE, Smart and Connected Communities

Syracuse CoE

NYC DOB Profiles Map (closed)

Architizer

Urban-X



Thank You



Urbata