



LIVE BUILDING SYSTEMS

Building a Livable Future

EMPOWERING USERS WITH LIVE DATA TO FIGHT INEFFICIENCY

livebuildings.com

SUSTAINABLE SOFTWARE FOR STREAMLINED SOLUTIONS

2022

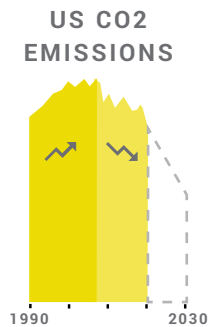
A Livable Future Requires Immediate Action

LOOKING OUT FOR YOUR PROPERTY AND OUR PLANET

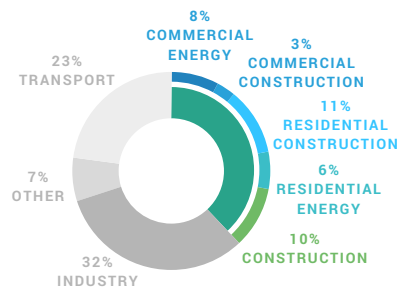
Earth is suffering, and life as we know it is at stake. Our built environment is afflicted by continued waste of increasingly limited resources, and the cost is enormous. While much of the building industry is unaware of existing inefficiencies to take proper action, *Live Building Systems has created a way to empower every end-user with the proper tools to make real impact towards a better environment and healthier future.*

45%

global carbon emissions reduction is needed by 2030 to keep global warming status **AS IS**



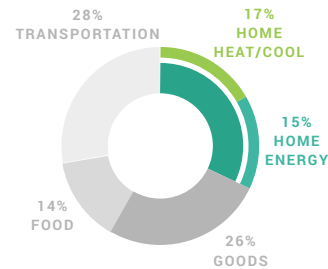
GLOBAL EMISSIONS



38%

of global carbon emissions is produced by the building industry **ALONE**

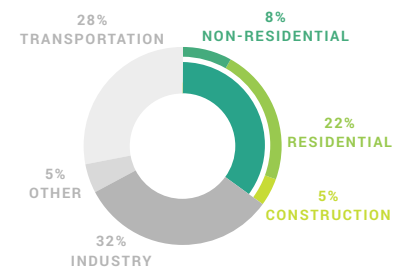
BY INDUSTRY



32%

of all emissions are produced just by day-to-day **BUILDING OPERATIONS**

GLOBAL USE



35%

of global **ENERGY USE** come from building occupation and construction combined

Solving an Industry-Wide Problem

SUSTAINABILITY AS A GROWING NECESSITY

There is significant and largely untapped potential to use digital solutions for design, construction, maintenance and operations - to make buildings more energy efficient overall. The time is ripe for change.

Regulatory

- National, State and City level **legislatures have pledged to reduce emissions by 2050**, creating downstream requirements for private sector reductions. In 2019, NYC passed Local Law 97 requiring 25,000+sf buildings to cut emissions 80% by 2050 (similarly Miami's BE305, Pittsburgh's Building Benchmarking Ordinance, Boston BERDO, Chicago, Los Angeles, etc)
- **Green building standards are gaining adoption in new construction** across the U.S. (such as Enterprise Green Communities and LEED)
- In some U.S. regions, **drought and water shortages are leading to the increased regulation of water resources**, including the direct submetering of tenants and the need to quickly detect leaks and waste

Market-Driven

- In less environmentally at-risk markets, the simple act of utility savings and the corresponding **increases to Net Operating Income are driving building owners to reinspect how their properties operate**
- In certain cities, such as New York, building **owners must post their energy efficiency scores**, leading to greater interest and pride in good energy scores
- ESG Funds are growing as the **private sector desire to create change is rising**

A Unified Approach to Optimization

A SIMPLIFIED APPROACH TO MAXIMIZED EFFICIENCY

Our mission is to empower individuals, businesses, and institutions with Live Data Analytics to help reduce waste, improve efficiency, and lower carbon footprints - ***so that the future may hold a world worth living in.***



TRANSPARENT

Own Your Data



SECURE

24/7 Peace of Mind



ACTIONABLE

Streamlined Solutions



UNIFIED

All in One

Our journey started in 2015 with an MD in New York who saw an opportunity to fix a growing industry-wide problem. The core practice of surgery is to cure the root of infection. Using the same principle on building efficiency, Live Buildings finds the root cause of inefficiencies and provides the information necessary for rapid repairs and overall sustainable improvements - all in one place.

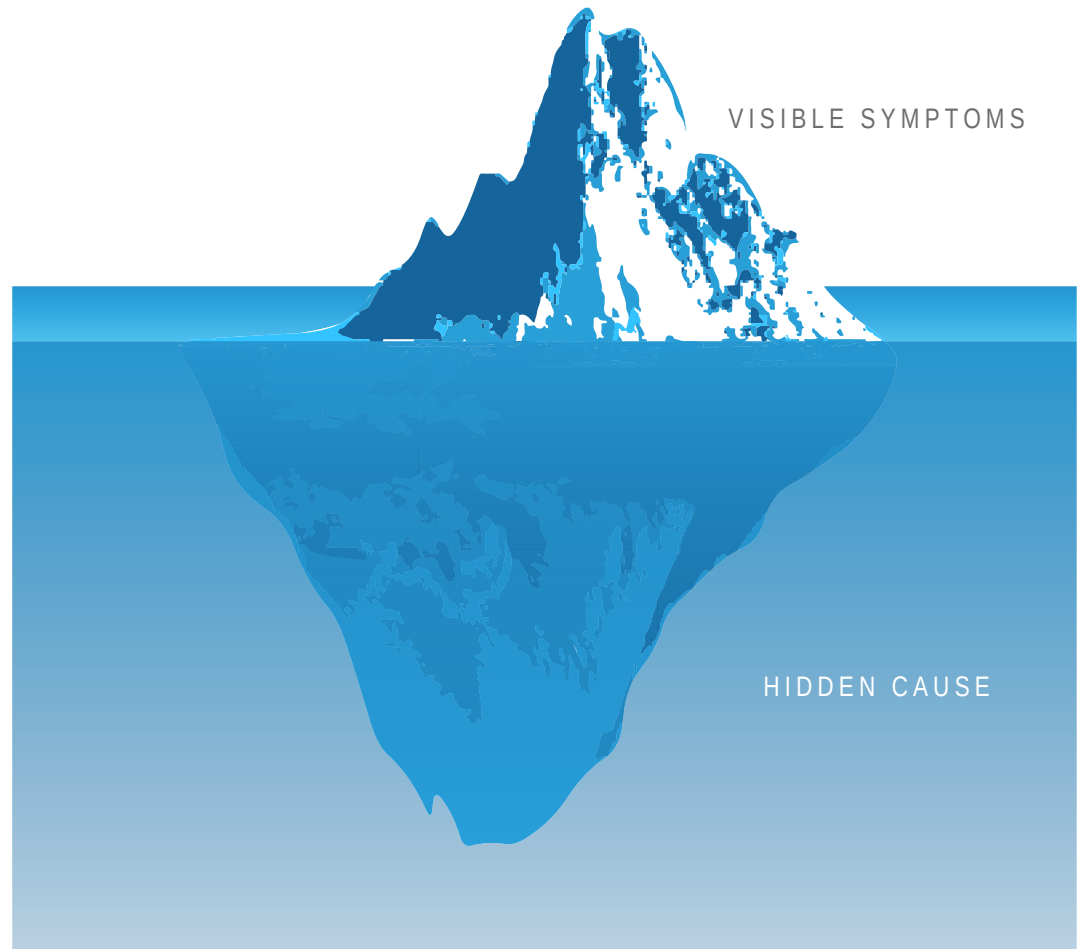
You Can't Fix What You Don't Know

THE POWER OF DATA TRANSPARENCY

With Live Data at our fingertips, conservation of water and energy becomes clear, simple and easy.

Our software does the hard work to analyze, consolidate and report real time data, displayed on an easy-to-use platform.

Our system defines what the problem is, where to find it and how to fix it allowing any user to take action on resolving inefficiencies, ***saving time, money, and resources***

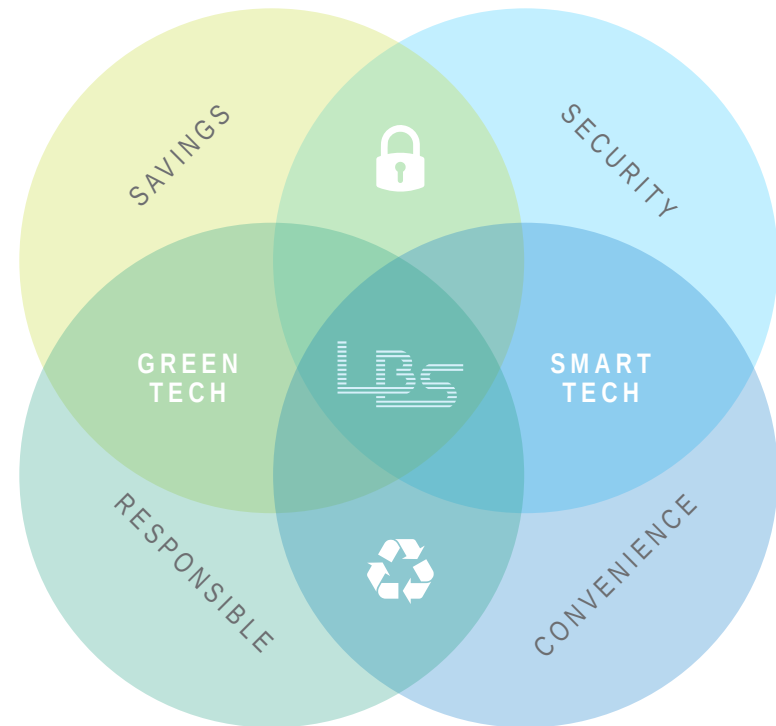


Waging War on Waste

PART OF THE SOLUTION

Given the number of pipes, wires, walls, water lines and people that fill a building - waste and inefficiencies are often unnoticed, for up to 60 days on average. **A running toilet wastes 6,480 gallons water per day, costing about \$70 daily.** Currently the most common way to find one is still from a high utility bill at the end of the month. Cost attributed to damage from hidden leaks can cause a much higher bill.

Live Buildings is where Smart Technology meets Green Technology, utilizing AI and connected smart meters to both prevent waste of resources as well as educate users on how to save and take action when any inefficiency is found.



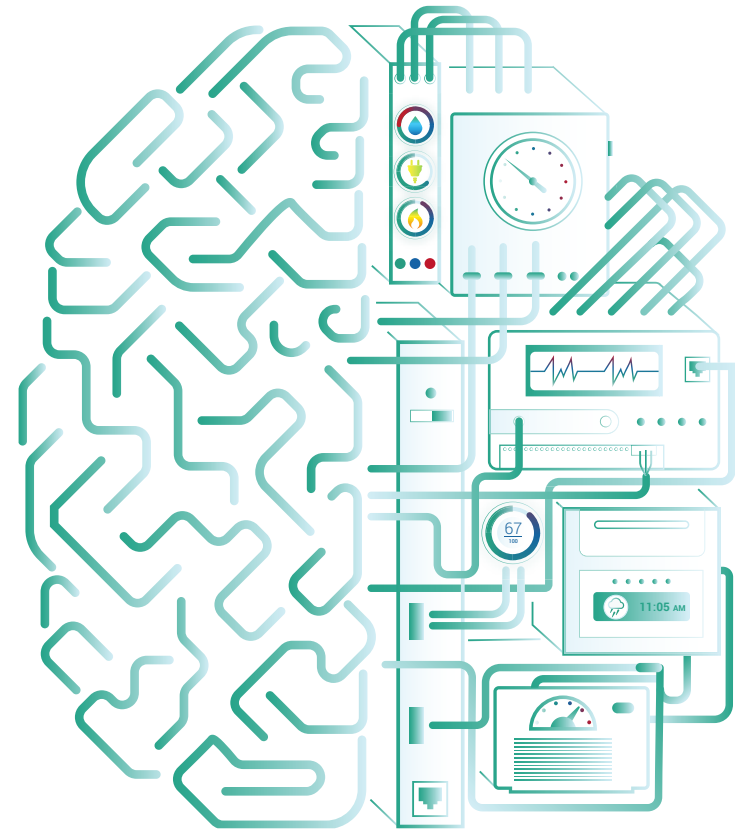
Smart Software Goes Green

WHAT IS GREEN TECHNOLOGY?

“Green” Tech uses IoT and AI to ultimately increase efficiency and reduce carbon footprint - from smart metering to data analytics, to bill scraping or BMS companies.

Despite monetary incentives and social pressures, the vast majority of building staff lack insight into their property’s utility usage on a day-to-day basis.

Built by sweat with modest to no marketing, Live Building Systems is undeniably a pioneer in this space, as one of the first who ‘do it all’, ***the time is ripe to become THE sustainable software, enabling any building to become environmentally accountable.***

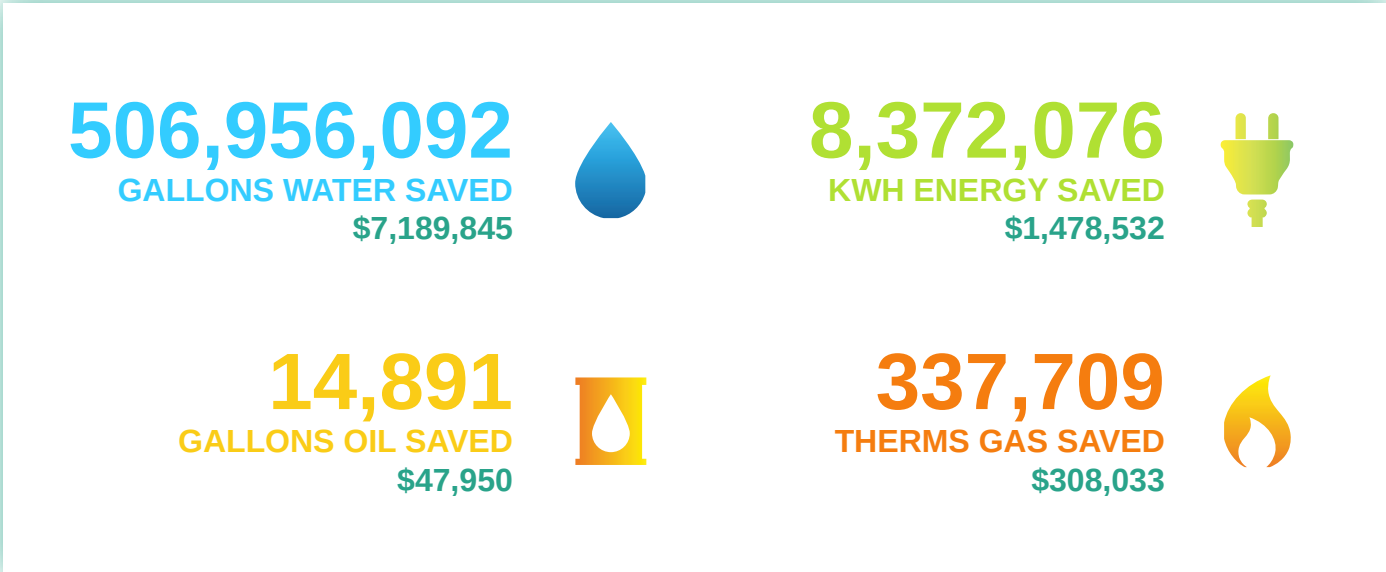


The Difference is Live

EVERY BUILDING HAS A PULSE, AND WE'RE READING IT

Savings *LAST MONTH* for

6,189 LIVE BUILDINGS



Olympic sized swimming pools of drinking water is saved on average *PER DAY* from current Live Buildings

24+

ON AVERAGE REDUCTION of water and energy usage reported within one year in any Live Building

20%

Live Buildings Suite

WE BELIEVE IN THE DEMOCRATIZATION OF DATA

With the Live Building Systems suite of tools, expert analysis and rapid response you can quickly identify leaks and cut excessive energy waste - ***generating a more efficient building, both economically and environmentally defined by water, electricity and fuel.***



LIVE WATER



LIVE WAVE



LIVE RISERS



LIVE POINT



RENEWABLES



LIVE ELECTRIC



LIVE GAS



LIVE OIL

Anatomy of a Live Building

LIVE BUILDING SERVICES

Spot Leaks Before They Drain You

As water continues to become more expensive, systems that detect water consumption, leaks and floods in real time, are increasingly important.

LIVE WATER | LIVE POINT | LIVE RISER

Cut the Chill Spill

From the windows to the walls, Live Electric provides real time analysis of electric, demand reduction, tariff understanding and RTEM Systems.

LIVE ELECTRIC | LIVE RENEWABLES

No More Burn Out

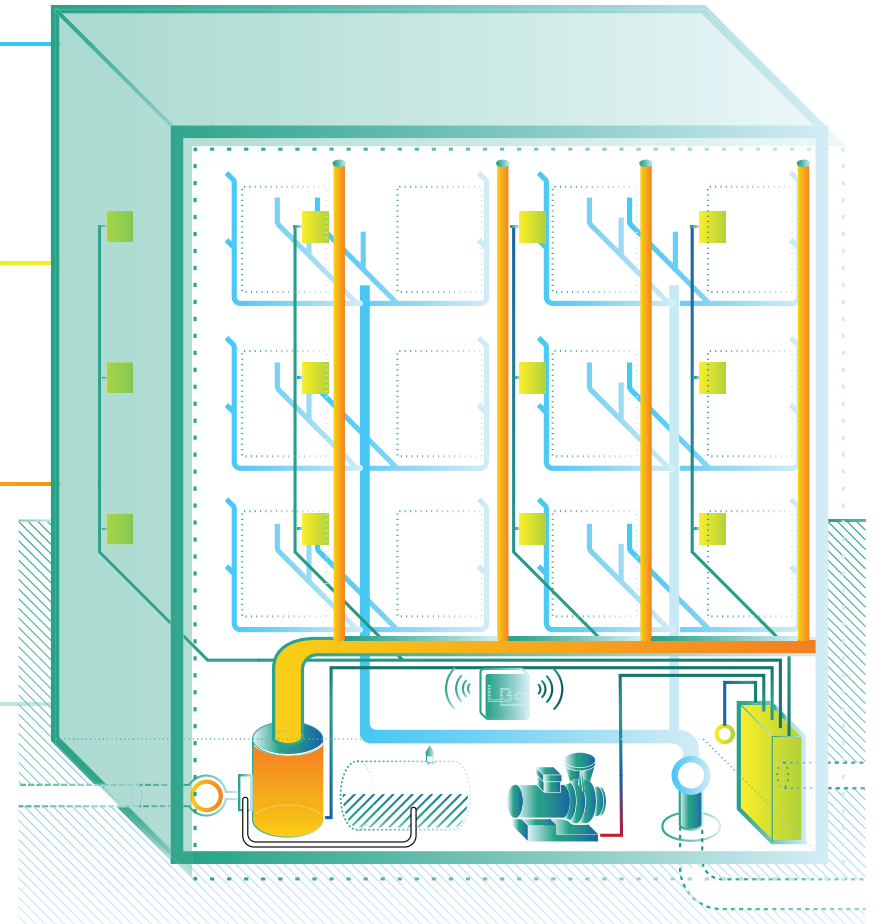
Understand gas and/or oil consumption, no matter the controls, and ensure that boiler use is efficient and economical.

LIVE GAS | LIVE OIL

Actionable Solutions

Access building management tools and data with ease, and simply - all in one place

SUBMETERING | CONTROLS | REPORTS | BENCHMARKING



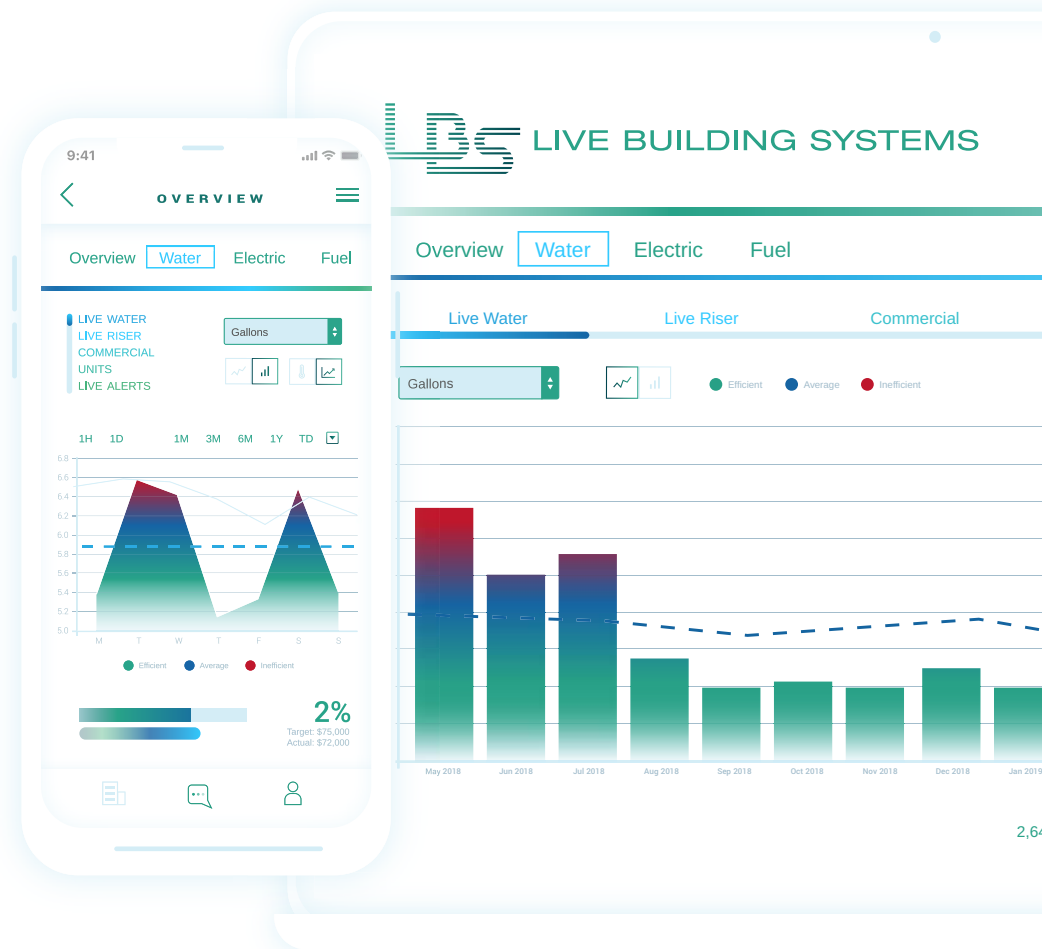
Data Transparency is in Our DNA

LIVE BUILDING TECHNOLOGY

Our cloud-based platform is a **central hub for all utility management needs** - from real-time data analysis, to seamless digital submetering.

As an open platform, the system supports **hardware-agnostic, revenue-grade smart devices**. Once vetted, LBS has seamlessly integrated over a dozen third party hardware devices and APIs.

Live data quickly identifies excessive waste directly to users. Live alerts, weekly data reports, and dedicated LBS Analysts provide regular engagement with clients, leading to a **99% customer retention rate**.



Verified Savings Explained

USING BENCHMARKING AND AI ALGORITHMS TO PROVIDE CLEAR SAVINGS

Each building or property scale and asset class have an **Efficiency Grade or Energy Star Score that provides a target for each fuel, electric, and water usage** - derived from the EPA database after years of study and data compilation since 1972.

Live Buildings tracks usage against these targets, and savings are derived from calculating efficiency over or below the EPA standard. The more a building is operating efficiently and below its target the more the portfolio is saving.

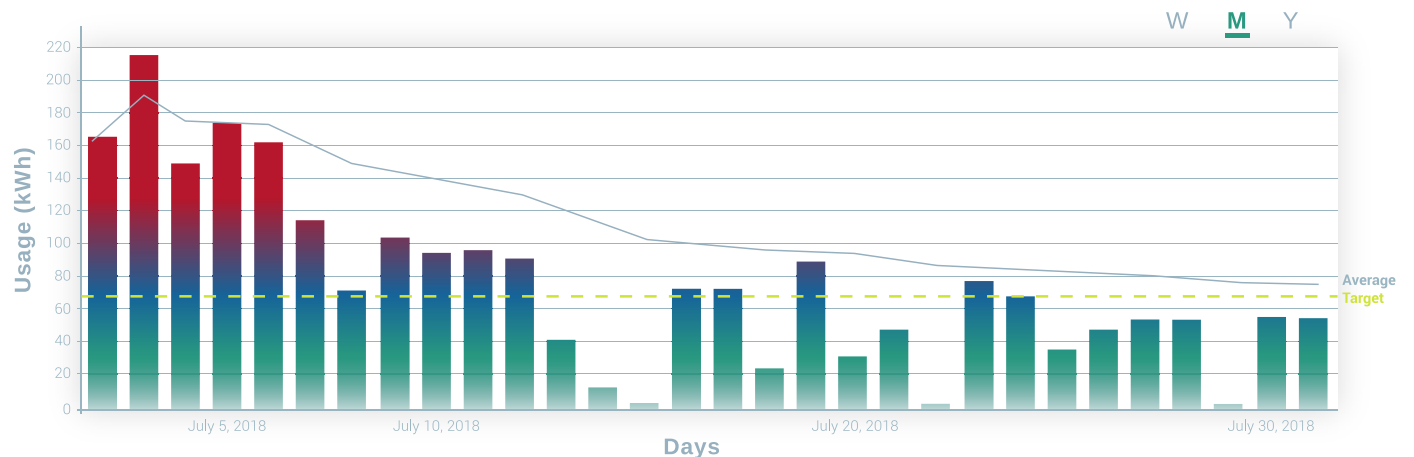
LIVE ELECTRIC IN WHITE PLAINS, NY



Live Buildings provides this commercial building with data analysis of the cooling system, as well as integration of controls. Live Buildings software is used by on-site staff to reduce run times of AC and keep tenant comfort during hours of operations

BUILDING TYPE: OFFICES
CONSTRUCTION DATE: 1970
NUMBER OF FLOORS: 3
GROSS SQ FT: 33,887

TIME PERIOD: 2017-2018
2017 KWH / CDD: 181.33
2018 KWH / CCD: 576.3
TOTAL REDUCTION: 44%



Building Blocks of Efficiency

LIVE BUILDING ADVANTAGE

Our passion is making sustainability available to all, so that we may fight climate change together - in a tangible and transparent way.

Proprietary

- Software Patented
- Owns the IP of the React-Live hardware (2018 Acquisition)
- Integrated but not dependent
- Does not rely on direct resources into developing hardware
- Ability to capture granular Live Data, both in terms of location (pinpointed problem) and time (minute to minute real time data)

Unified

- Provides Full Suite of Services (not only Water or only Electric)
- User-Friendly Platform and Remote Software Services
- LBS provides both upfront install and continuous monitoring, covering entire project timeline
- Robust contractor network in NY Metro Area, and expanding across major US cities for expert service & reliable performance
- Proactive and Engaging in terms of Deployment, Follow Through and Ongoing User Relationships

Accessible

- 6,100+ Live Buildings to date
- Accessible Pricing (both Install Upfront & SAAS)
- For All Asset Classes and Sizes
- Hardware Agnostic (LBS tested, vetted & approved) - does not require building owners to replace operational hardware, saving time and cost
- 99% Retention Rate



Real Time Data for Real Time Savings

HARDWARE AGNOSTIC OR REACT-LIVE SMART-METER



Live Buildings is Smart-Meter Agnostic

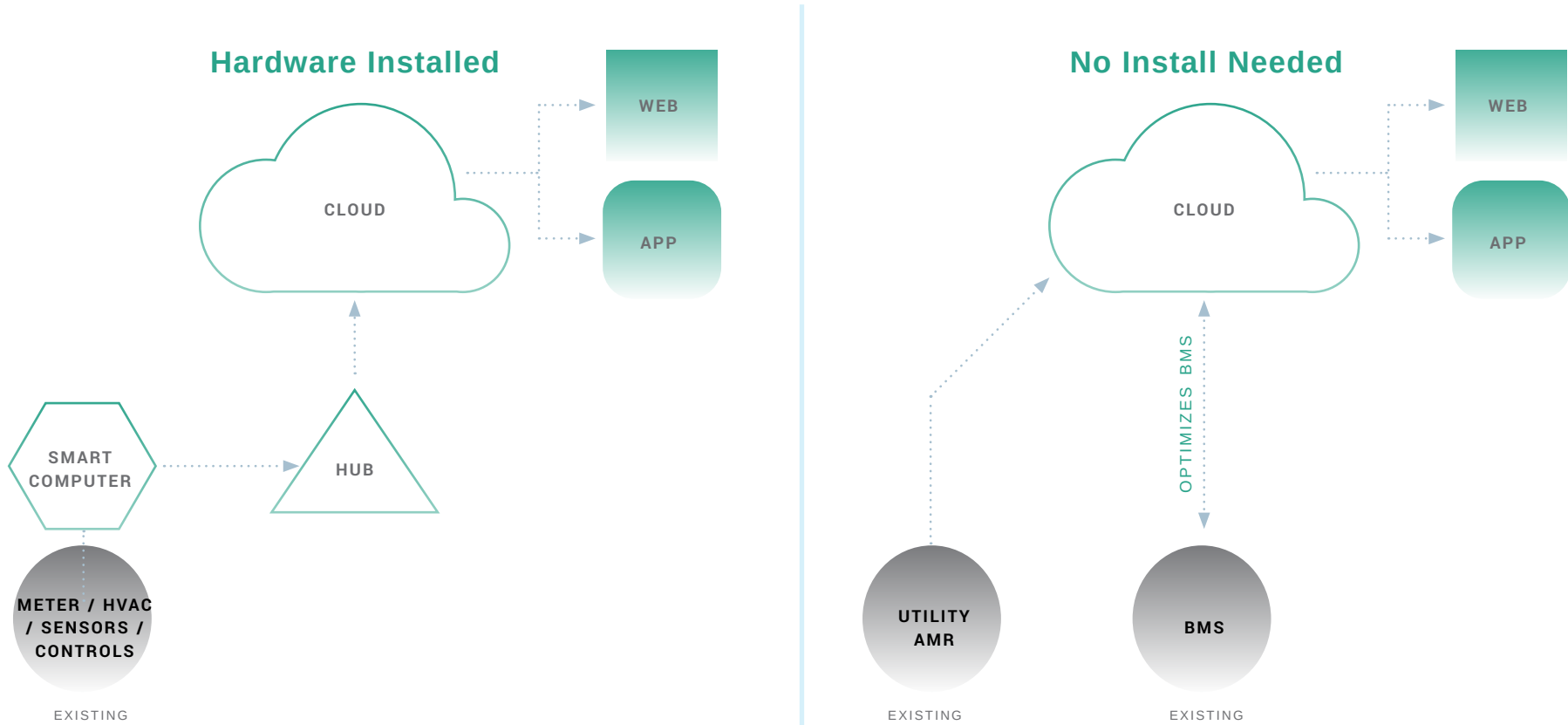
Meaning Live buildings works to unify smart manufacturers onto one platform - ***any compatible meter can have its data tracked, displayed, analyzed in real-time by our software***

- “Bring your own meter” or purchase directly from LBS
- Select brands that are compatible include: React-Live, EKM, Shark, E-Mon, Accuenergy
- LBS is actively building out its compatible hardware, and ***any smart meter that transmits data to the cloud can ultimately be added to the LBS dashboard***

How it Works

TECHNOLOGY TOOLKIT

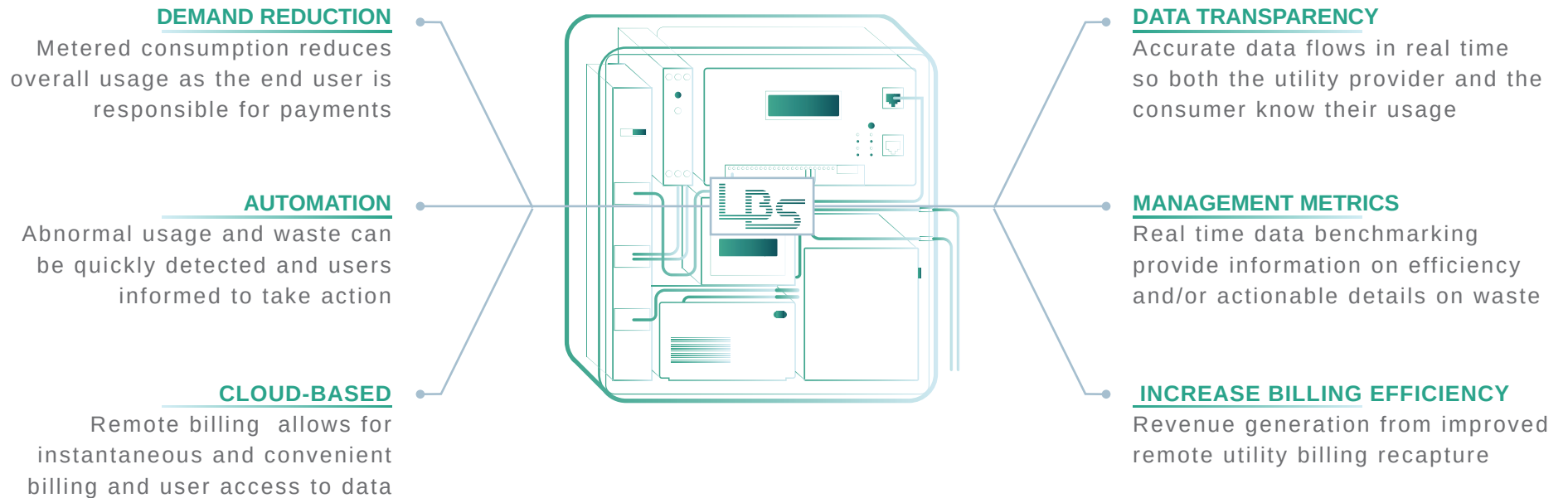
Any analog utility meter can be converted to a “smart” meter.



The Power to Change

KEY BENEFITS OF INTEROPERABILITY SOFTWARE

LBS has a robust database of buildings, and can utilize our expertise, knowledge, authority and lessons in the field over the past decade to optimize operations and quickly detect waste



The Power of You

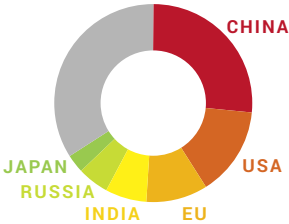
FOR ALL BUILDING TYPE OWNERS AND BEYOND

Building Industry

From Commercial to Residential to Industrial, no matter the building type - each building is an end user of water, electric, and fuel. End use is what live buildings analyzes, and produces a road map to efficiency and savings.

25%

is the amount of **DAILY WASTE** of average urban building, often from unnoticed running toilets



17%

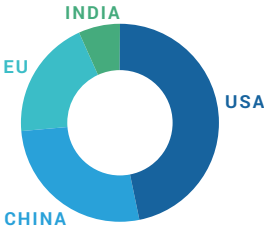
of **GLOBAL EMISSIONS IS GENERATED IN THE USA**, second to China - whose energy use is still on the rise annually

20%

EXPECTED REDUCTION of water and energy usage reported within one year in any Live Building

Individuals

Each of us has the power to engage in fixing the problem we've created with real change. Every modification for the better, can make a real positive impact on our future.



18 tons

Americans individually produce **MORE CO2 PER PERSON** than in the other top 4 emitting countries

77%

of people want to learn **HOW TO LIVE MORE SUSTAINABLY**, but don't think they can afford it



5 Earths

is how many we would need to support the human population, if everyone lived **LIKE AN AMERICAN**

Data Sources: 2020 Rhodium Group, World Bank National Footprint and Biocapacity Accounts 2021 Edition

The Water Problem

- ✗ Leaks happen and they are expensive and damaging
- ✗ Leaks are undetectable and need to be found once the water bill reveals the problem
- ✗ Access to water is a right that owners get billed for tenant use
- ✗ Plumbing pipes and valves go bad and are expensive to fix
- ✗ Building owners rarely know if they are using an efficient amount of water
- ✗ Average multifamily buildings waste \$1,033 per unit per year due to leaks, waste, and no insight on bills and data

Live Water Solution

- ✓ LBS software and hardware finds and fixes leaks before they damage your building and wallet
- ✓ Technology like Smart Water Grids act as early alarms and controls to warn you of leaks as they occur
- ✓ With submetering, you can bill tenants for the water they use
- ✓ With Live Buildings services, plumbing rehabs and installation of valves is easy
- ✓ With Live Water Monitoring you know if you have leaks or high water use and have the power to fix it
- ✓ Average Live Buildings save over 20% on water bills



The Electric Problem

- ✗ The average owner pays hefty demand charges, tariffs, and tax codes, which are complex and unnecessarily confusing
- ✗ Traditional demand charges are done minute-to-minute using interval metering data without letting the user know
- ✗ Electricity usage is necessary and unless you actually turn it off, it burns a hole through your wallet
- ✗ Electricity companies do not want you to know your electricity usage in real-time
- ✗ The Average Building Electricity cost ranges from \$30,000- \$100,000



Live Electric Solution

- ✓ We provide real-time electricity insight and bill analysis. Showing you what you're using, when you're using it, and what your rates are
- ✓ We send you automatic alerts that share your highest demand hours so you can turn off high using electricity equipment
- ✓ With our system, you know exactly what is using electricity and whether it is on or off during hours of operation, allowing you to lower your electricity bill
- ✓ We empower you to know your electricity in real time, providing you with actionable data, saving you thousands
- ✓ LBS can reduce your electricity bill by approximately 10%, saving clients over \$4.25 million in electricity costs last year

The Fuel Problem

- ✗ The average building owner has no idea if they're overheating or under heating their property and in turn, they are wasting a lot of money
- ✗ Owners have no knowledge of the actual amount of fuel and gas they're burning
- ✗ Boiler controls are unsupervised and are put on bypass which unnecessarily overheats buildings
- ✗ Oil companies may short oil deliveries without your knowledge
- ✗ Building owners are not aware of the inefficiencies in their heating system



Live Fuel Solution

- ✓ LBS Live Fuel Monitoring System shows if building owners are heating their building efficiently in real time
- ✓ LBS has temperature and heating sensors that are integrated with buildings to provide you real-time data
- ✓ We ensure that no matter what boiler control you have, the Live Fuel data monitors the boiler control, stopping you from wasting energy and money
- ✓ Our Live Buildings Oil Gauge monitors oil tank levels, deliveries and verifies oil tickets, preventing oil shorting
- ✓ With live fuel you will be able to know the efficiency of your heating system, 24/7

Live Building Asset Classes

ANY BUILDING CAN BE A LIVE BUILDING

Live Buildings looks at all properties and asset classes with a consumption, utility, and waste approach first. From industrial plants, to residential, to hospitals - all properties have a footprint, water, fuel and electricity. The consumption analysis is simplified using our AI and Algorithms, for any building, at any scale, for any use.



MULTIFAMILY



COMMERCIAL



HOSPITALS



SENIOR HOUSING



INDUSTRIAL



UNIVERSITY



WAREHOUSES



SPECIALTY



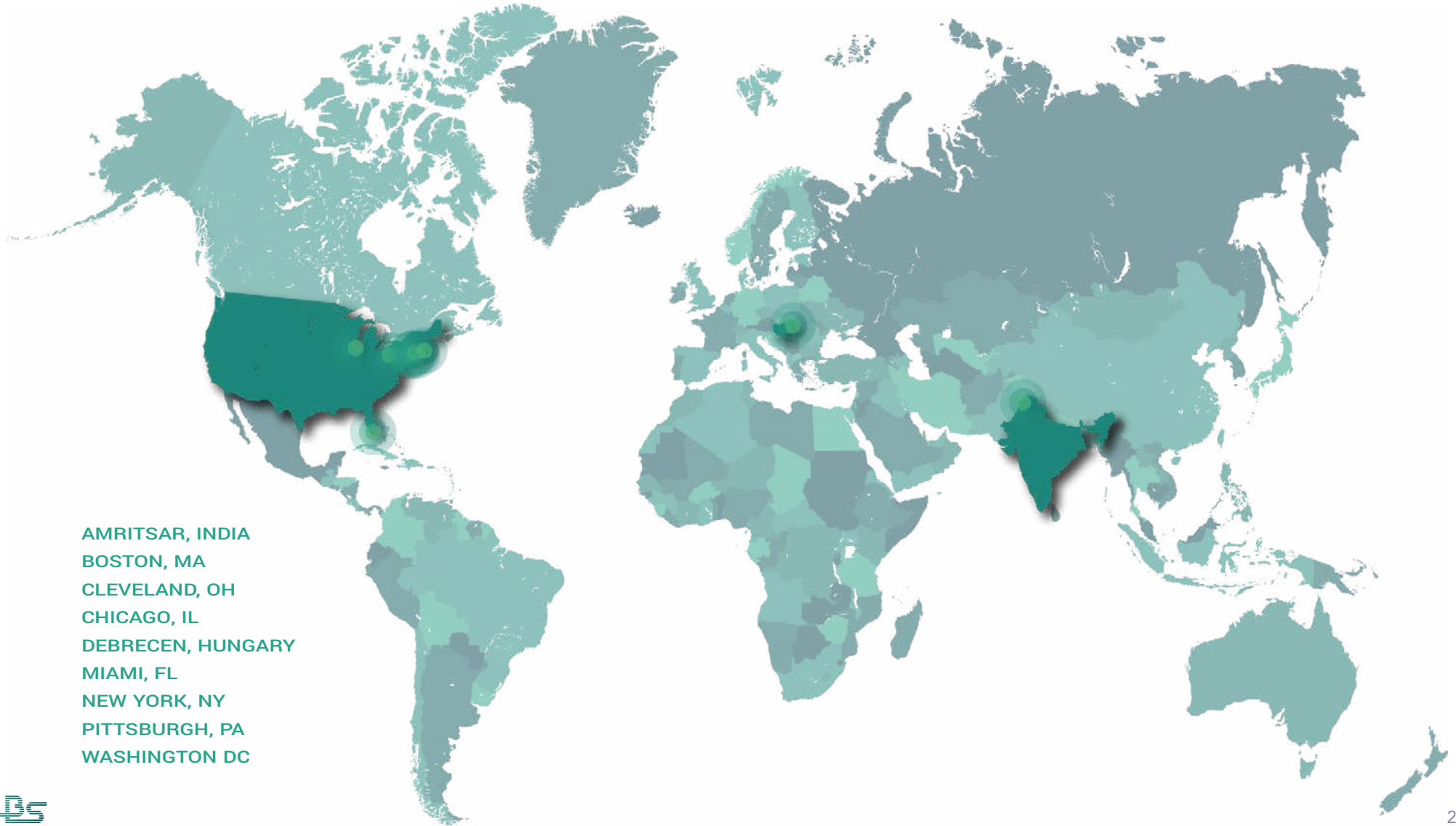
MUNICIPAL



SINGLE FAMILY

Climate Change is a Global Problem

EXISTING CUSTOMER LOCATIONS



AMRITSAR, INDIA
BOSTON, MA
CLEVELAND, OH
CHICAGO, IL
DEBRECEN, HUNGARY
MIAMI, FL
NEW YORK, NY
PITTSBURGH, PA
WASHINGTON DC

Live Buildings Services

END-TO-END SOLUTIONS AT YOUR FINGERTIPS

Our services include 24/7 live monitoring, remote access, and real-time alerts for users to **save time, save money, and save resources**



LIVE OS		RTEM
LIVE WATER	LIVE FUEL	LIVE ELECTRIC
SMART-METERING		LIVE RISERS
ONLINE CONTROLS	OIL VERIFICATION	LIVE POINT
REAL TIME BENCHMARKING	DATA ANALYST	CONSUMPTION REPORTS
ESG COMPLIANCE		ENERGY SCORE CARD
UTILITY DATA SYSTEM	LIVE CONTRACTING SERVICES	SOFTWARE DEVELOPMENT

Go Live Today

CUSTOMER JOURNEY

Live Buildings captures, digitizes and analyzes data from smart meter technology to provide critical data points of physical matter: electricity, water, fuel, temperature, and humidity.

One-Time and Subscription Services

- **HARDWARE: Smart Computers and Smart Metering Technology** are furnished by LBS and installed by either our Live Contracting Services, or a client approved sub-contractor. (In some cases the building has existing hardware, in which case LBS provides a frictionless software integration.) **Live Buildings generates revenue from the sale of hardware and installation.**
- **SOFTWARE:** A Customized and Modular Subscription Structure where all services include **Data Visualization, Auto-Alerts, and Weekly Analysis Reports**. Each account is provided with a dedicated (human) LBS data analyst expert who builds an ongoing relationship with the client. **Live Buildings offers an annual or monthly subscription for one or multiple services, auto-renewed every year.**

An Ongoing Relationship

- **ORGANIC LEAD GENERATION:** Clients often reach out via phone, email or referrals due to interest in reducing waste and improving operational efficiency after suffering from traumatic utility bill event, water damage, insurance, local compliance laws or interest in prop tech
- **SOFTWARE DEMONSTRATION**
- **PILOT:** Client provides utility logins and building list to create an account for their portfolio. The LBS OS immediately begins pulling and analyzing utility data
- **1 MONTH TRIAL PERIOD**
- **SET UP USER ACCOUNTS & STAFF TRAINING:** Client can use all the features LBS provides for the service signed and can add on additional services
- **ROI:** Typically our clients see ROI of less than 1 year and a 20% reduction of waste

Real Time Data for Real Time Savings

TESTIMONIALS

Our early adopters have been the most zealous advocates of our work. Whether residential, commercial, or municipal - our clients and partners have experienced the real power of LBS. They understand what we can do for both their profit margin and environmental footprint. Together, we can improve the world.



"I've had the pleasure of working with the Live Buildings team since 2013. By tracking water consumption, and providing clear road maps, together we've managed to save thousands portfolio-wide on Live Water and Live Riser systems."

- Mario Gaztambide
SENIOR MANAGING DIRECTOR



"We have worked with LBS for over five years. They have helped us save thousands of dollars on water and energy initiatives as well as seamlessly submitted our benchmarking. It is a pleasure working with their team."

- Morgan Magistro
VICE PRESIDENT AND MANAGER OF
FINANCIAL OPERATIONS



"Working with LBS has become a great demonstration of 'what gets measured gets managed'. Having access to live utility-consumption data on one platform enhances our decision-making ability for both operational and capital improvements to our properties. LBS Live Risers enables us to quickly find and prioritize leaks, preventing building damage, reducing waste, and saving hundreds of thousands. In addition to their technology, Live Buildings' staff is knowledgeable and passionate about sustainability. We have now rolled out the platform nationally."

- Tyler McIntyre
DIRECTOR OF DEVELOPMENT AND CONSTRUCTION

You Can't Fix What You Don't Know

REAL DATA-DRIVEN RESULTS

LIVE ELECTRIC



BUILDING TYPE:

MULTIFAMILY

NUMBER OF UNITS: 444

OCCUPANCY: 90%

2017

\$40,178

2,232,158 KWH



2018

\$30,308

1,683,798 KWH



2020

\$24,914

1,384,149 KWH



ROI 174 DAYS



2017-20 37% DECREASE



LIVE WATER



BUILDING TYPE:

MULTI-FAMILY RESIDENTIAL

NUMBER OF UNITS: 134

OCCUPANCY: 99%

2014

\$253,018

364 GAL / UNIT / DAY



2015

\$176,271

260 GAL / UNIT / DAY



2017

\$129,289

188 GAL / UNIT / DAY



ROI < 1 YR



2014-17 48% DECREASE



LIVE GAS



BUILDING TYPE:

RESIDENTIAL

NUMBER OF UNITS: 444

OCCUPANCY: 90%

2017

\$393,003

312,610 THERMS



2018

\$371,493

291,955 THERMS



2019

\$307,025

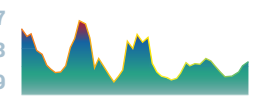
234,288 THERMS



ROI < 1 YR



2017-20 35% DECREASE



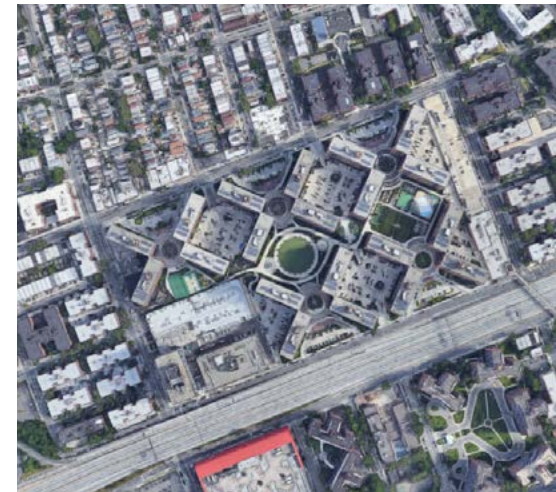
Harness the Power of Technology to Save

LIVE WATER IN ACTION

LeFrak City consists of 20 buildings (9,200 units) across 40 acres in Queens, NY. These 50+ year old buildings were notoriously inefficient.

In 2016, LeFrak wanted to both cut utility costs and improve resident quality of life. They hired LBS to eliminate inefficiencies. LBS immediately deployed Live Efficiency Monitoring Software to identify high wasting properties. LBS subsequently installed Live Risers in the most troubled properties - which provide 20X more granular leak detection .

With Live Buildings analytics, management is able to prioritize and intervene on leaks early - with reductions in property damage and wasted staff time, and increased tenant satisfaction and annual savings.



900

Total Leaks Detected

46M

Gallons Saved

750k

Dollars
Saved Annually

2.3M

Dollars
1 YR Savings (2015)

The Power of Live




















OUR PARTNERS & PROMINENT CLIENTS



Disruption in an Evolving Market

NOT ALL GREEN TECH IS CREATED EQUAL

*From Public Information based off company websites

					
REAL TIME DATA ANALYTICS					
PROPRIETARY SOFTWARE & HARDWARE					
LIVE CONTRACTING SERVICES					
GLOBAL REACH	NY METRO	NY METRO	NYC	NATIONWIDE	
SMART WATER GRID TECHNOLOGY					

Many of our key competitors have been developed around either water or energy, offering a fragmented experience and leaves gaps between utility information and a building's potential savings. **Live Buildings is one of the few that provide tailor-made solutions and granular level data – pinpointing inefficiency down to the minute it occurs.** We also provide proprietary hardware options, so your data is not dependent on external sources.

Disruption in an Evolving Market

A UNIQUE PERSPECTIVE ON SUSTAINABILITY

Live Building Systems empowers users to fight waste with clear, actionable data.

Where most companies look at each building differently, LBS views every building the same (no matter size or type) - as a series of systems defined by water, electricity and fuel.

ALL IN ONE

A simple, unified approach to efficiency, a full picture of a buildings consumption and analysis all on one platform

TRANSPARENCY

Accurate data aggregation and intuitive visualization of any analog or smart meters and all base building systems

SIMPLICITY

Continuous innovation and development of hardware and interface UX that simplifies waste reduction and energy efficiency

RELATIONSHIP

Client engagement drives product iteration, leading to improved services and ecosystem

REAL TIME

The fuel of the LBS OS, producing timely alerts and prompt data visualization for real savings and real results

INNOVATION

Improving, unifying and liberating data while creating new standards for end-user engagement allowing increased collaboration

Thank You

TO LEARN MORE, PLEASE CONTACT

(866) 954-4703

INFO@LIVEBUILDINGSYSTEMS.COM

338 E 22nd Street, New York, NY 10010

“We began Live Building Systems to make sustainable living possible for any end-user through tangible data, simple interface, and easy solutions - in order to make a real difference towards a better future. Today we’re in thousands of buildings, but our goal is to one day be on everyone’s phone, spreading the power of positive impact to all.”

-TEGHPAL SANDHU
CEO & CO-FOUNDER

