

# The value of building data

## *Market and buyer views of Haystack and peer data standards*

For Haystack Connect 2025

May 2025

Drafted by Aamidor Consulting

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# AGENDA

**State of the market**

**Vendor Landscape**

**Market feedback**

**Open questions and points for consideration**

**Questions?**

**About us**

# Overview

- Data normalization is critical
- There is a growing need for normalization
- But, market recognition of the problem, and solutions, remains low
- And, the “how” data is normalized is open for discussion

*This presentation seeks to provide a market view of data normalization, not a rating/critique of Haystack itself.*

# State of the market

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# Market overview

## *Current state of affairs...*

Increasing  
buyer  
recognition of  
the value of  
open  
protocols...but  
they may lack  
nuance.

Demand for  
more building  
data...to drive  
analytics,  
better  
outcomes

OEMs see  
significant pull  
through  
revenue for  
digital  
services...but  
this cuts both  
ways

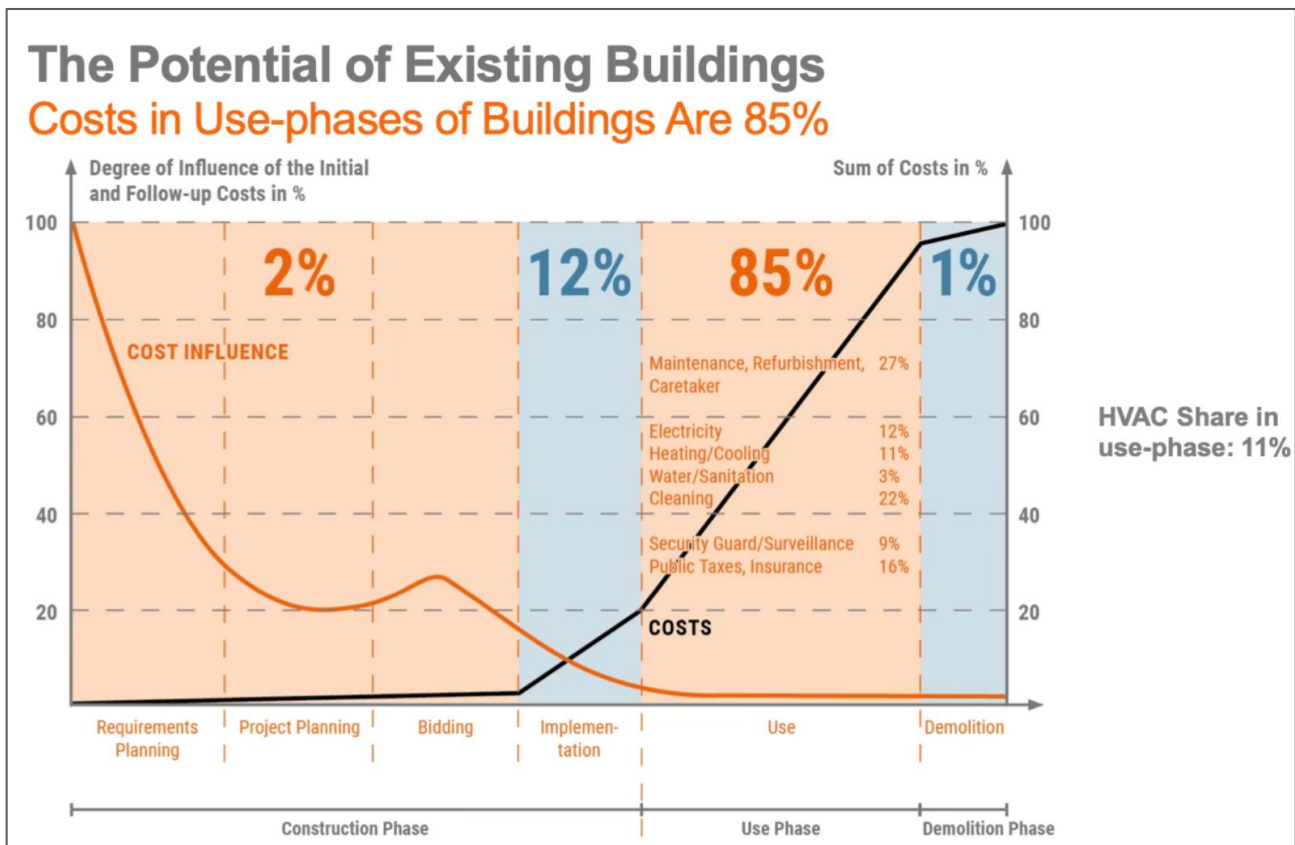
Large OEM  
install bases  
may make  
their offerings  
pencil with  
limited data  
acquisition  
complexity

# Costs rule, in a non-logical way

*Cost influence vs actual costs - leads to inefficiencies in the use phase.*

Source: Belimo  
Capital Markets  
Day

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# What do building owners want?

*Haystack is an enabler to these end goals...*

Haystack enables...

Decarbonization / Net zero buildings

*Data on building system performance to inform capital planning*

Solution to labor shortage for techs/FMs

*Quicker deployment of technology to augment staff*

Energy savings / equipment life extension

*Deploy analytics to identify root causes of facility issues*

Time →

Digital sophistication →

# Vendor landscape





# Types of firms

*There are a number of key vendors in the market*

## **OEMs:**

Offer the full stack of capabilities to buildings

## **Startups:**

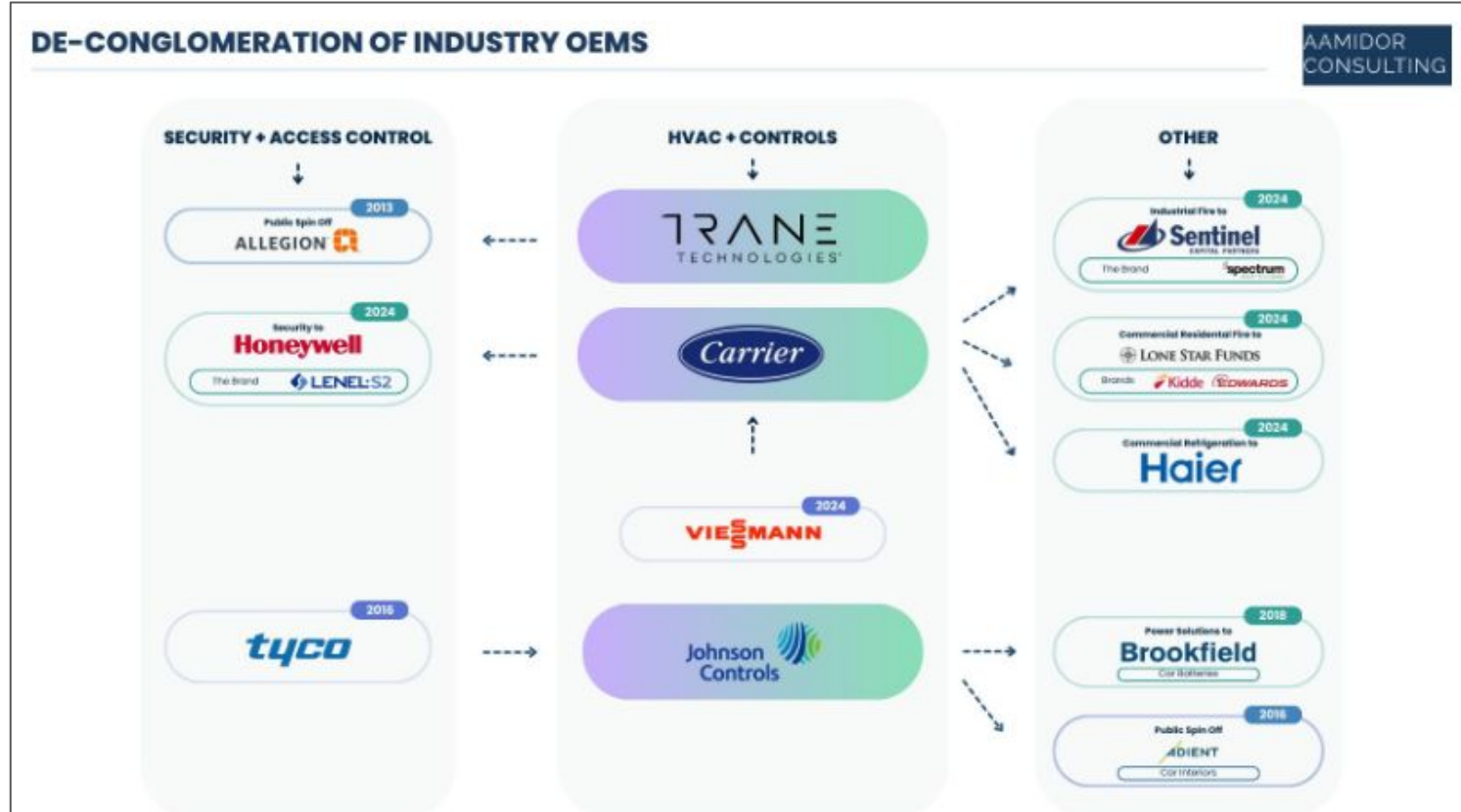
Lots of innovation across application layer, middleware, etc.; hundreds of firms

## **Services firms:**

Small controls/HVAC shops, large integrated FM firms, many in between

# OEMs are making moves... (1)

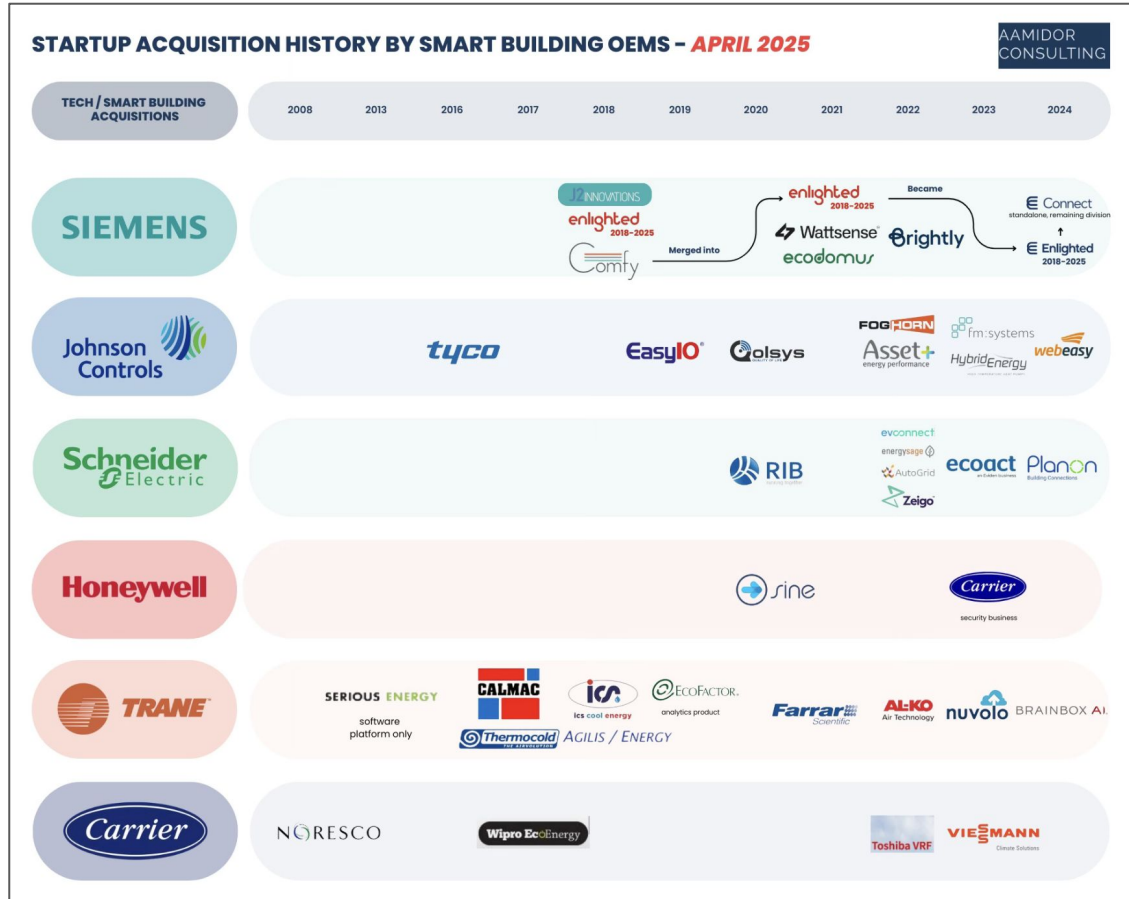
*The HVAC/controls conglomerates continue to be key players. And are more focused.*



# OEMs are making moves... (2)

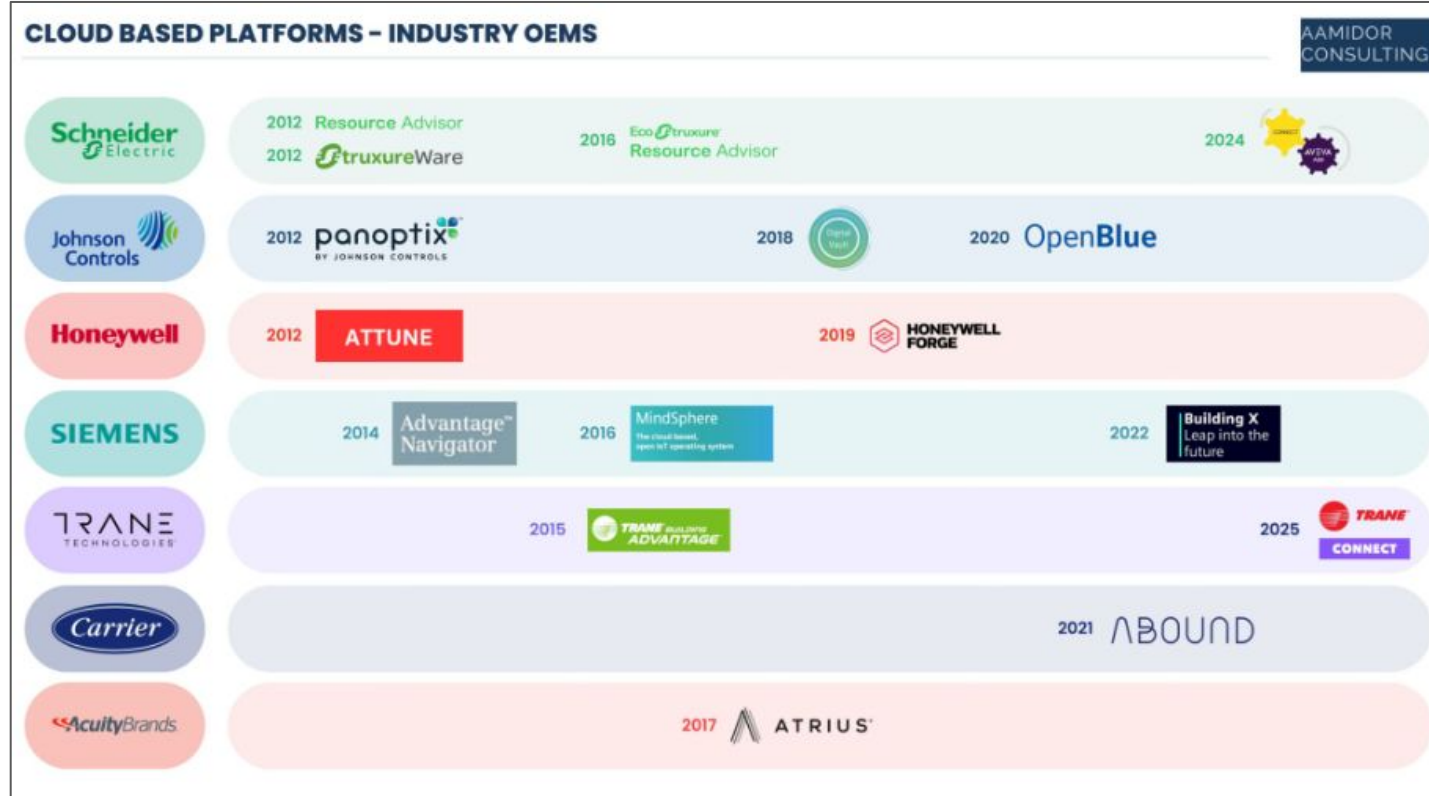
*There is over 10 years of history of OEMs buying innovative startups.*

*Data independence and reduced software-based lock-in are two key themes of some of these deals.*



# OEMs are making moves... (3)

*Most OEMs have had a hot-cold relationship with cloud-based software, but it appears to continue to be an area of interest.*



# Why are OEMs investing in tech?

*Software is viewed as a pull-through revenue driver...*

## Building Lifecycle

### Solutions to Bring Value Across the Building Lifecycle

#### 1. Product & Technology Leadership

- Sales support and project engineering
- World class estimating tools
- Connection ready systems and digital software as a service

#### 2. New Construction

- Focus on systems
- Local execution and application engineering
- Service linkage to owner



#### 5. Owner Driven Retrofit

- Ongoing technology refresh
- Lifecycle planning and prioritization of building needs
- Digital solutions to measure and optimize building performance

#### 4. Parts & Repair

- Connected systems software detects faults and risks
- Remote diagnostics to improve response time
- AI driven proactive service

## AFTERMARKET

### LIFECYCLE OPPORTUNITY FROM CARRIER INSTALLED BASE

PRODUCT FAMILY	INSTALLED BASE (units)	POTENTIAL LIFECYCLE VALUE (multiple of equipment sale)
Commercial HVAC	330K	~5-10x <sup>1</sup>
Light Commercial HVAC	2M	~1-3x
Residential HVAC	33M	~0.5-1x
Refrigeration Equipment	1.8M	~0.5-1.5x <sup>1</sup>
Fire & Security	90M+ <sup>2</sup>	~0.5-5x <sup>1</sup>

Large installed base paving the way for substantial lifecycle value



1. Upper range includes healthy, safe, sustainable & intelligent pull-through; Fire & Security potential lifecycle value of commercial and industrial systems only.  
2. Internal estimate of (1) global commercial and industrial systems in service, and (2) U.S. residences with Kidde smoke and/or carbon monoxide alarm units in service (90M - "Units"), derived from the approximate number of: a) Units sold in U.S. since 2000 and remaining in service (400M); b) U.S. residences (based on U.S. Census Bureau completed construction statistics and 2021 American Housing Survey); and (c) Units per U.S. residence (based on National Fire Protection Association requirements)

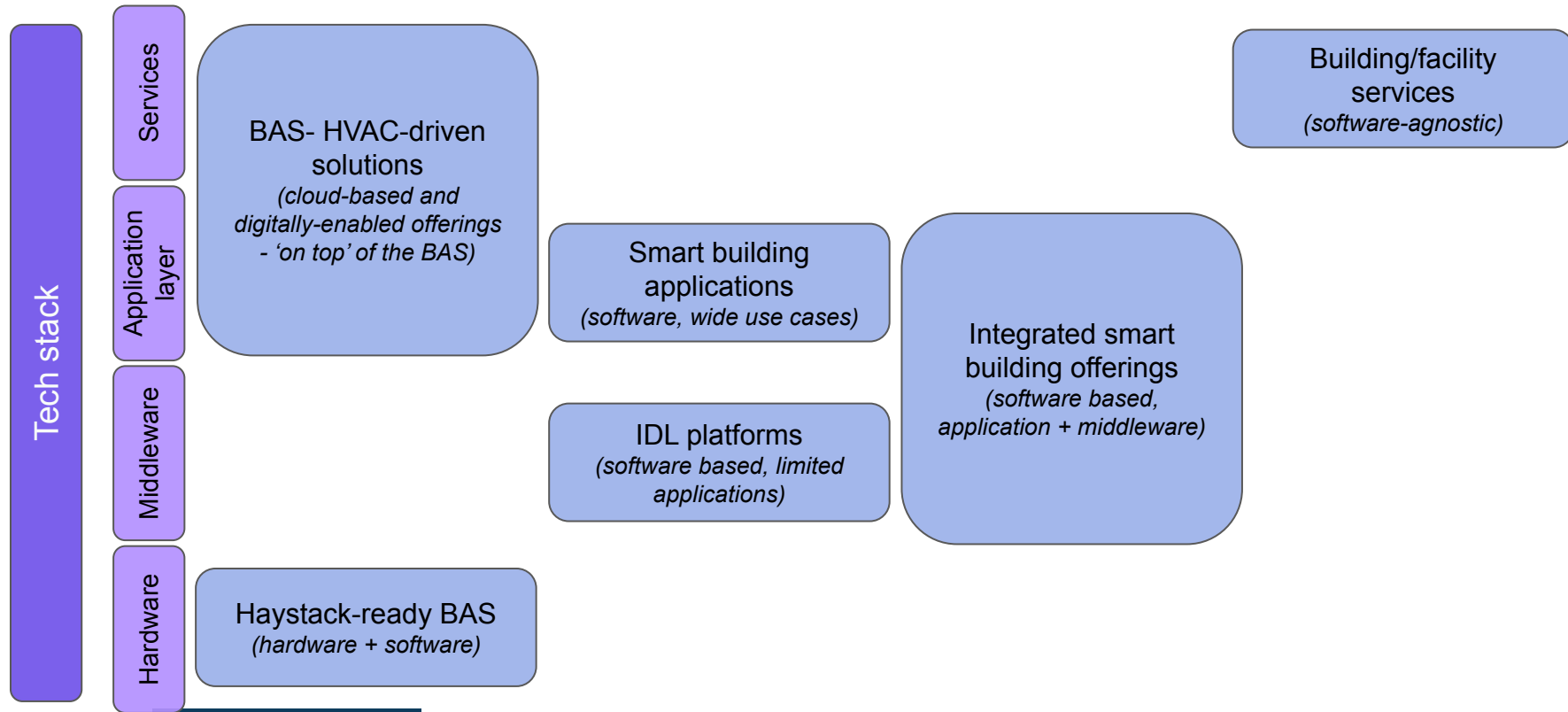


# Startup landscape

- By the (general) numbers...
  - **Market:** Low hundreds of startups
  - **Scale:** Firms have scale as low as tens of millions of square feet, as high as hundreds of millions of square feet.
  - **Capital:** Total funding to individual firms can range from single-digit millions to tens of millions
  - **Timeline:** Firms are as old as 15-20 years, as young as 3-5 years.
- User requirements:
  - Users seek solid ROI that will justify investment
  - They also focus on upfront costs and implementation timelines
  - ***Value differentiation*** is more important than ***product differentiation***
- Buyers/Users often are challenged by the fragmented market. They may know some firms, but not others. A hard space to diligence.

# How middleware is deployed?

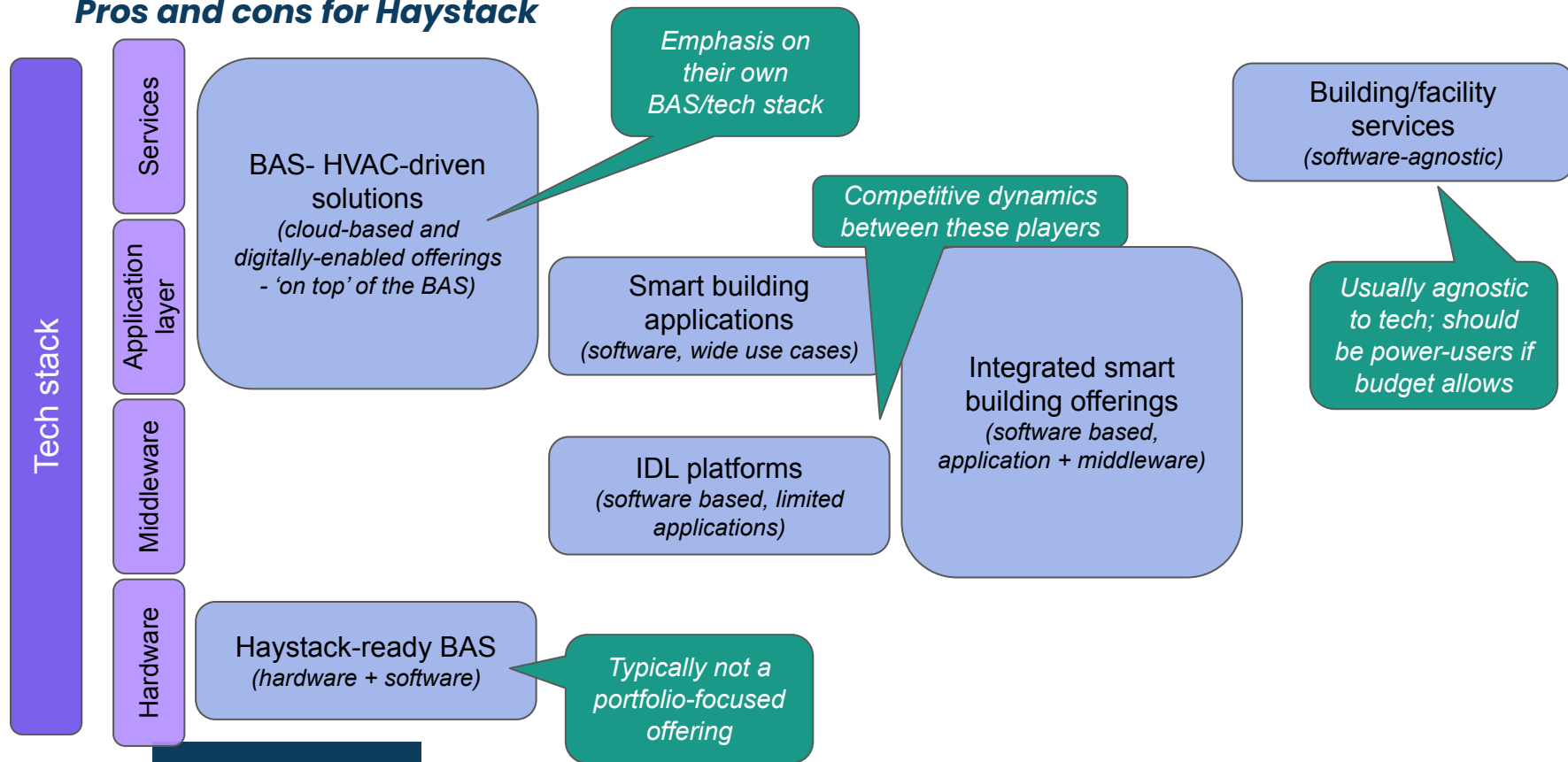
*High level view of different approaches*





# How middleware is deployed (2)

## Pros and cons for Haystack



# Market feedback

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# What do buyers/users think?

## *Key takeaways....*

There is strong evidence that the market needs open, independent data. The path to get there is less clear.

- Is there a winning standard?
- What is the value prop of a data normalization standard?
- Where does point tagging live?
- Is this a solution or a service?

# Is there a winning standard?

*Firms do not appear to be picking Haystack over Brick, etc...*

- A number of individuals noted that no individual standard meets their needs - a combination of them do (wider set of data needs)
- Different roles/responsibilities dictate different data in and out of scope, and flow to
- Hybrid approaches reign (e.g., a combo of Brick and Real Estate Core)
  - Ex: Ontology Alignment Project

For many building/portfolio operators, it is not a “Haystack vs. Brick” decision. It is simply a “normalize/standardize all my data” point.

# Value prop of a standard

*The naming/tagging solution is just an enabler of value*

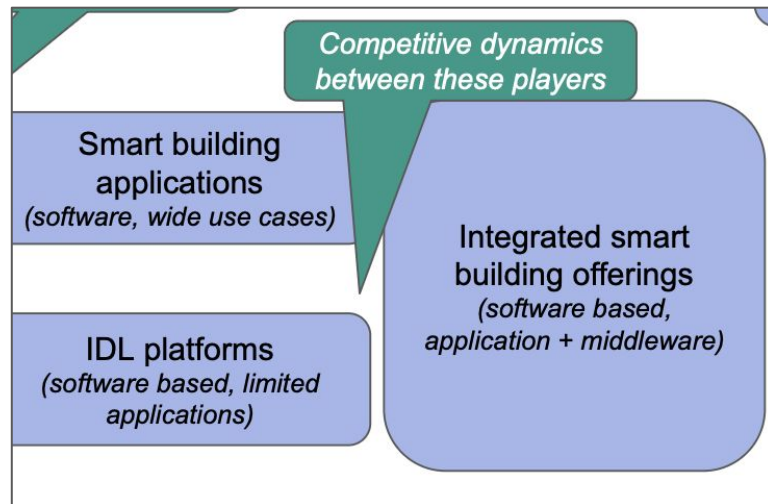
- Firms with a focus on 'data middleware' have struggled to scale, and rarely deliver full value to the end user.
- Some sophisticated building technology stakeholders frame the end application as the value (with a solid ROI) and the data tagging step as a “prerequisite”.
- Some firms offer “data as a service” but this tends to be too expensive for the value delivered (esp as an enabler).

The business case for Haystack (or peers) remains challenging - unless bundled with application-layer solutions.

# Where does point tagging live?

***Strongest competitive dynamics are between smart building platforms and middleware applications***

- Lack of consensus as to where point tagging should live
  - Firms with complete platforms - and a history of success with them - seek to bundle point tagging.
  - Firms with less standardized technology stacks may prefer the the independence of separate middleware.
  - Services firms tend to be agnostic
- No clear resolution here, in the near term.



# Is this a solution or a service?

*Go-to-market approach is not yet sorted out...*

- Legacy firms may focus on updating naming to enable ongoing services (but do not necessarily)
- Software
  - Early adopters / sophisticated building operators tend to lean towards a software-based solution for point data, not a service
    - They like an independent data layer, but how do you get there?
    - ROI - good TCO, but may appear to be more expensive upfront.
  - But, others are ***less focused on the way*** data is organized, and instead are focused on ***what is organized***.



# Open questions and points for consideration

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# Food for thought...

- How can Haystack double down on delivering value – not just as an enabler of that value?
- Open go-to-market questions; how should Haystack get involved?
- Should Haystack be more expansive with more real estate data sets/types?
- Role of agentic AI...Helps? Hurts?

# Questions / Answers

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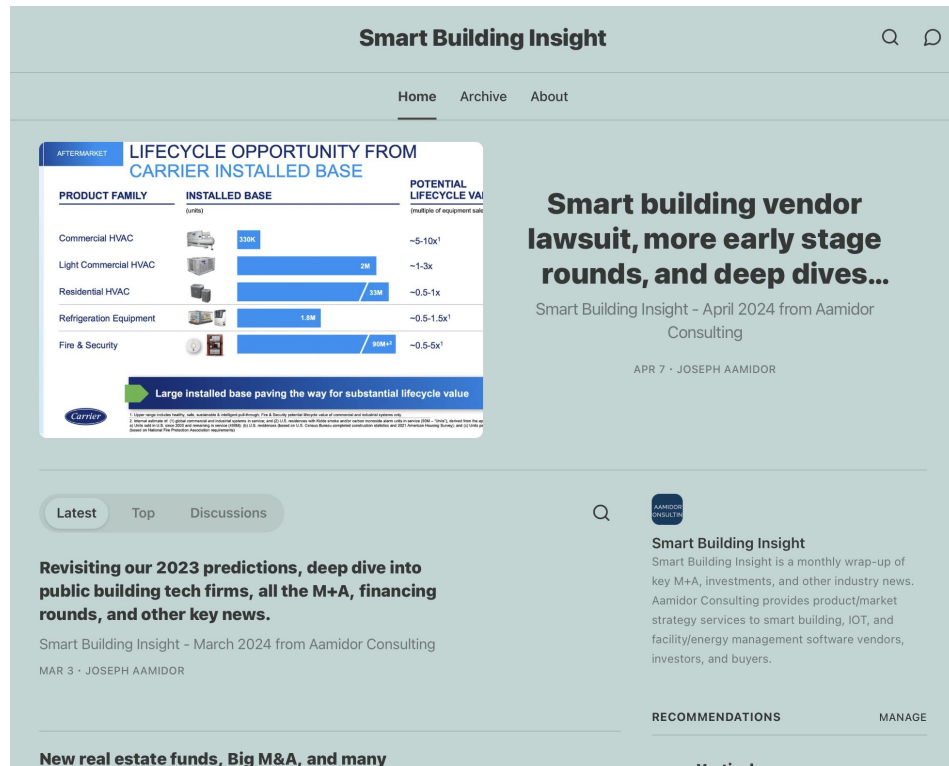
# About Aamidor Consulting



# ABOUT OUR FIRM

- Aamidor Consulting is a product strategy firm with an exclusive focus on smart buildings and real estate technology. Our work includes competitive analysis, market research, pricing/packaging/positioning, corporate strategy for small and large vendors, diligence and advisory services to investors, and vendor selection support to real estate operators.
- The firm is led by Joe Aamidor, an expert in the smart buildings market who has extensive product management experience in the building and energy management industry. He most recently served as Director of Product at Lucid Design Group, growing the offering from an occupant engagement solution to an enterprise building management solution for technical users and decision-makers. He also held product management responsibilities at Johnson Controls, managing two applications within JCI's Panoptix SaaS building management offering. Prior to these roles, Joe was a software sales engineer and spent five years at ICF as a consultant working on energy, environment, and transportation projects for federal and private clients. He frequently speaks at industry events and has been published in Greentech Media and other industry periodicals.

- Subscribe at  
<https://smartbuildinginsight.substack.com>



# AAMIDOR CONSULTING OFFERINGS

We typically work with one of three key stakeholder types in the market...

## Vendors

*Sample projects include...*

- Product strategy ->
  - Competitive analysis
  - Voice of customer
  - Market sizing
  - Pricing/positioning
  - Initial concept development and validation
- Product management / marketing advisory services
- Event-Keynote speaking engagement

## Investors

*Sample projects include...*

- Market scouting within a category of interest
- Commercial due diligence on a target investment/acquisition
- Advisor to startups / portfolio companies
- *Note: similar offerings for acquisitions*

## RE Owners/Operators

*Sample projects include...*

- Market scouting
- Vendor selection support
- RFP authorship and process management
- Market briefings: competitive landscape, pricing, etc.



# SMART BUILDING INSIGHT NEWSLETTER

M+A and Partnership trackers [available here](#)

SMART BUILDINGS M+A TRACKER		Provided and compiled by Aamidor Consulting	www.aamidorconsulting.com	Last updated: April 2024		
Acquisition Target	Type	Acquirer	Link	Value	Date (M/Y)	
Wegowise	Utility bill data acquisition/Multifamily ESG reporting	Measurabl	<a href="https://www.measurabl.com/measurabl">https://www.measurabl.com/measurabl</a>	Undisclosed	9/2022	
ADT	Home security (equity investment)	Google, State Farm	<a href="https://www.wsj.com/articles/adt-drf">https://www.wsj.com/articles/adt-drf</a>	\$1,500,000,000	9/2022	
Flow and Form	Tenant / occupant experience	Robin	<a href="https://www.businesswire.com/news">https://www.businesswire.com/news</a>	Undisclosed	9/2022	
Work Sphere	Tenant / occupant experience	Envoy	<a href="https://www.businesswire.com/news">https://www.businesswire.com/news</a>	Undisclosed	9/2022	
Senva	IOT sensor design/manufacturing	Carel	<a href="https://www.carel.com/news-detail/">https://www.carel.com/news-detail/</a>	Undisclosed	9/2022	
Blue Pillar	IOT energy platform	Generac	<a href="https://investors.generac.com/node/">https://investors.generac.com/node/</a>	Undisclosed	10/2022	
Think Energy	Retail electricity provider (residential)	Energywell	<a href="https://www.prnewswire.com/news-">https://www.prnewswire.com/news-</a>	Undisclosed	10/2022	
Sol Vista	Hospitality energy management	InSite	<a href="https://www.insiteintelligence.com/p">https://www.insiteintelligence.com/p</a>	Undisclosed	10/2022	
Emerson climate solutions business	HVAC/refrigeration components and equipment	Blackstone	<a href="https://www.reuters.com/markets/de">https://www.reuters.com/markets/de</a>	\$9,500,000,000	10/2022	
Aquicore	Energy management software	Infogrid	<a href="https://www.aquicore.com/blog/info">https://www.aquicore.com/blog/info</a>	Undisclosed	10/2022	
AL KO Air Technology	HVAC technology	Trane	<a href="https://www.acr-news.com/trane-tec">https://www.acr-news.com/trane-tec</a>	Undisclosed	11/2022	
Asset Resolution	ESG Data	GRESB	<a href="https://www.gresb.com/nl-en/insight">https://www.gresb.com/nl-en/insight</a>	Undisclosed	12/2022	
Vivint Smart Home	Smart home platform	NRG	<a href="https://www.axios.com/2022/12/06/r">https://www.axios.com/2022/12/06/r</a>	\$2,800,000,000	12/2022	
LORD Green Solutions	Sustainability consulting/data management	Legence (Blackstone)	<a href="https://www.globest.com/2022/12/04">https://www.globest.com/2022/12/04</a>	Undisclosed	12/2022	
Venstar	Small/medium building controls	Daikin	<a href="https://www.businesswire.com/news">https://www.businesswire.com/news</a>	\$101,000,000	12/2022	
Shades of Grey (CICERO)	Sustainability data	S+P Global	<a href="https://press.spglobal.com/2022-12">https://press.spglobal.com/2022-12</a>	Undisclosed	12/2022	
Infinsense	Data monitoring and analysis	Sealed	<a href="https://sealed.com/infinsense-acquisi">https://sealed.com/infinsense-acquisi</a>	Undisclosed	1/2023	
SMS Assist	Tech-enabled facility operations	Lessen	<a href="https://www.businesswire.com/news">https://www.businesswire.com/news</a>	\$950,000,000	1/2023	
Sluss+Padgett	HVAC/Controls contractor/integrator	Rogers Building Solutions	<a href="https://www.accesswire.com/73538/">https://www.accesswire.com/73538/</a>	Undisclosed	1/2023	
etc.venues	Events and workspace	Convene	<a href="https://convene.com/catalyst/compe">https://convene.com/catalyst/compe</a>	Undisclosed	1/2023	
Hybrid Energy	Industrial heat pumps	Johnson Controls	<a href="https://www.prnewswire.com/news-">https://www.prnewswire.com/news-</a>	Undisclosed	1/2023	
Ubigreen	Energy/sustainability software	Planon	<a href="https://planonsoftware.com/uk/news">https://planonsoftware.com/uk/news</a>	Undisclosed	2/2023	
CX App (Inpixon)	Occupant engagement app	KINS Technology Group (SPAC)	<a href="https://ir.inpixon.com/news-events/c">https://ir.inpixon.com/news-events/c</a>	\$69,000,000	2/2023	

SMART BUILDINGS PARTNERSHIP		www.aamidorconsulting.com	Provided and compiled by Aamidor Consulting	Last updated: April 2024		
PARTNER	PARTNER	Type	Link	Date (M/Y)		
Energywell	AIoT Devices	Smart building solutions	<a href="https://www.iotworldtoday.com/">https://www.iotworldtoday.com/</a>	1/2024		
Matterport	Arcadus	Digital twin capabilities	<a href="https://www.marketscreener.co">https://www.marketscreener.co</a>	2/2024		
Schneider Electric	NTT Data	Edge-based AI solutions	<a href="https://services.global.ntt/en-US">https://services.global.ntt/en-US</a>	2/2024		
Carrier	ALAT	Advanced HVAC solutions - R&D and manufacturing	<a href="https://www.corporate.carrier.co">https://www.corporate.carrier.co</a>	2/2024		
Siemens / Enlighted	Zumbotel	Lighting controls	<a href="https://workplaceinsight.net/sie">https://workplaceinsight.net/sie</a>	3/2024		
EY	IBM	Corporate ESG solutions	<a href="https://www.ey.com/en_gl/news">https://www.ey.com/en_gl/news</a>	3/2024		
HAVEN	Ecosense	IAQ solutions	<a href="https://www.wicz.com/story/505">https://www.wicz.com/story/505</a>	3/2024		
UL Solutions	Sinai	ESG reporting solutions	<a href="https://www.sinai.com/post/ul-si">https://www.sinai.com/post/ul-si</a>	3/2024		
NVIDIA	Schneider Electric	AI data center design	<a href="https://www.facilitiesdive.com/n">https://www.facilitiesdive.com/n</a>	3/2024		
NVIDIA	Rockwell Automation	AI in Industrial manufacturing	<a href="https://www.rockwellautomation">https://www.rockwellautomation</a>	3/2024		
KPMG	Sweep	Corporate ESG solutions	<a href="https://www.sweep.net/newsroc">https://www.sweep.net/newsroc</a>	3/2024		