

# TC 7.06 Subcommittee on Building Data Exchange Meeting

## Meeting Agenda

Tuesday, February 11, 2025, 10:00 – 12:00 MST/Phoenix

Hyatt Regency, Sundance (Level 1)

Meeting Details: <https://events.rdmobile.com/Sessions/Details/2949560>

Virtual Teams Meeting: [Click here to join the meeting](#)

## **ASHRAE Code of Ethics Commitment**

In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity, and respect for others, and we shall avoid all real or perceived conflicts of interests. (See full [Code of Ethics](#).)

## **Proposed**

10:00	Introductions	All
	Acknowledgment of previous meeting minutes ( <a href="http://tc0706.ashraetcs.org/">http://tc0706.ashraetcs.org/</a> )	
10:10	Announcements and Remarks	Long
10:15	Old Business / Action Items	Long
10:30	Round Table on Building Data Exchange Updates	
	<u>Standards and Schema</u>	All
	• 229P: Protocols for Evaluating Ruleset Application in Building Performance Models	Goel
	• SSPC 205-2023: Representation of Performance Data for HVAC&R and Other Facility Equipment	Hitchcock
	• SSPC 232: Common Content and Specifications for Building Data Schemas	Roth

Published October 2024, officially a SSPC now. Need update on the adoption, next steps.

Data Type	Description	Regular Expression Pattern	Examples
UUID	An effectively unique character string conforming to ITU-T Recommendation X.667 <sup>1</sup>	<code>[0-9,a-f,A-F]{8}-[0-9,a-f,A-F]{4}-[0-9,a-f,A-F]{4}-[0-9,a-f,A-F]{12}</code>	123e4567-e89b-12d3-a456-426655440000
Date	A calendar date formatted per ISO 8601 <sup>2</sup> ( <i>Informative Note:</i> For formats that include a fundamental data type for Date that can be used instead of a string.)	<code>[0-9]{4}-[0-9]{2}-[0-9]{2}</code>	2015-04-29
Timestamp	Date with UTC time formatted per the extended format in ISO 8601 <sup>2</sup> ( <i>Informative Note:</i> For formats that include a fundamental data type for DateTime that can be used instead of a string.)	<code>[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-]?[0-9]{2}:[0-9]{2})?</code>	2016-06-29T14:35
GenericTimestamp	Timestamp without denoting a specific year. In the form (G/F)(+/-)Y(YYY)-MM-DDTHH:MM:SS.f G: Gregorian calendar (leap year every four years except years divisible by 100) F: Fixed calendar (no leap years) ( <i>Informative Note:</i> Negative years indicate years before year zero and may be used to indicate timestamps before timestamps of interest [e.g., initialization periods for simulated data].)	<code>[GF][+-]?[0-9]{+}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-]?[0-9]{2}:[0-9]{2})?</code>	F0-01-01T00:00:00
TimeDuration	Duration of time formatted per ISO 8601 <sup>2</sup> ( <i>Informative Note:</i> For formats that include a fundamental data type for DateTime that can be used instead of a string.)	<code>^(?P(?:=d(Td)(?:\d+)Y)?(?:\d+)(M)?(?:\d+)([DW]))?(?:T(?:\d+)(H)?(?:\d+)(M)?(?:\d+)(S)?S\$</code>	P1Y2DT0H3M
Version	Version identifier in the form major.minor.patch as defined by SemVer <sup>3</sup>	<code>(0 [1-9][0-9]*).(0 [1-9][0-9]*).(0 [1-9][0-9]*)([a-zA-Z-]*)([0-9a-zA-Z-]*)([0-9a-zA-Z-]*)([0-9a-zA-Z-]*)</code>	1.1.3, 1.2.0-beta-92

- For a symbol raised to a power, use the symbol followed by the power (e.g., “m<sup>2</sup>”).
- For the product of two symbols, use the hyphen (-) (e.g., “N-m”).
- For the quotient of two symbols, use the solidus (/) (e.g., “W/m<sup>2</sup>-K”)
- Use only one solidus symbol per derived unit (e.g., “m/s<sup>2</sup>”, not “m/s/s”).
- Do not use parentheses (e.g., “W/m<sup>2</sup>-K”, not “W/(m<sup>2</sup>-K)”).
- Do not use negative exponents (e.g., “W/m<sup>2</sup>-K”, not “W-m<sup>-2</sup>-K-1”).

## ● gbXML

Roth

On May 31, 2025, gbXML.org announced schema version 8.01 for a 45-day public review. Review closes mid-July. Key enhancements include integration of occupant-behavior XML (obXML) elements originating from LBNL and ASHRAE RP-1815. Handling the stochastic impacts of occupants. Directly imported the elements.

gbXML has not yet adopted SSPC 232 but will be looking into it.

Focused on a standard for energy modeling. Transferring data between BIM authoring tools and BEM.

AI related to gbXML analysis at ASHRAE. Search for program. Tianzhen created an FMU to translate obXML to gbXML, which produced different results every time. Can handle “archetypes” of persons, man/woman, old/young, etc.

<https://data.ashrae.org/1815rp/>

- 231P: CDL - A Control Description Language for Building Environmental Control Sequences

West

- BEDES and Mapping Manager Walter
- HPXML Balbach

Home performance XML – mature format for supporting transactions of residential energy audits. Lots of many use cases now around simulating the audit data with openstudio/energyplus. 20-25 software tools have adopted this workflow. Manual J sizing, which is a simple calculation. Added a recent calculation for the home electrical service based on NEC/NFPA.

There is a desire to build out the electrical sections/equipment in other data exchange standards. Maybe even include an electrical load calc.

- BuildingSync Marzullo / Simmons

There was an effort to create an ASHRAE standard, but trying to figure out what it looks like. We are looking at other ways to create BuildingSync as a standardized protocol. Maybe it is a normative appendix.

Working on aligning with 232. Commercial world is a bit more complicated than HPXML. Need to focus on the most common use case. NREL is carrying a lot of this work and we need more industry involvement.

Balbach: Connections to HPXML – check the committee and how they are working with BPI. There is a very specific strategy for change management.

There a lot of single zone package units in the real world that can be replaced or tracked in BuildingSync. Is this the use case... is it achievable.

There is a release in the end of the September related to 229,232. No breaking changes.

- Benchmark Datasets Long

Xiong, Jie, Lena Burkett, and Lieko Earle. 2024. “Mapping Use Cases and Dataset Needs for Benchmarking Buildings Data.” *Building and Environment* 251 (March):111224. <https://doi.org/10.1016/j.buildenv.2024.111224>.

Started this project a few years ago. There is a python package to help parse the metadata and calculate statistics based on the data. The user of the data portal can filter based on the metadata. There is still a manual step to find what data you care about.

🔍 south table

Search: south table x

#### FILTERS

#### PROJECT CRITERIA

##### Participating Organizations

- ☐ Lawrence Berkeley National Laboratory 1
- ☐ National Renewable Energy Laboratory 1
- ☐ Oak Ridge National Laboratory 1
- ☐ Pacific Northwest National Laboratory 1

##### Project

- ☐ BBD 1

#### DATASET CRITERIA

##### Data Access Method

- ☐ download-dap 1

##### Keyword

- ☐ Energy Use 1
- ☐ STM 1
- ☐ Table Mountain 1

1 DATASETS (page 1 of 1)

bdd / stm

### National Renewable Energy Laboratory, South Table Mountain Campus, Golden, Colorado

The National Renewable Energy Laboratory (NREL) South Table Mountain campus, located in Golden, Colorado, has multiyear datasets from buildings with approximately 1,100,000 sq ft of floor area. These 16 buildings include a large office, nine laboratories, and other education or public assembly facilities such as an education center, a warehouse, quick service restaurants, two site entrance securit... [show more](#)

#### Contacts

#### Keywords

#### References

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	point_label	id	air	bacnetConn	bacnetCur	bacnetDis	bacnetHis	bacnetObjec	bacnetPoint	connRef	connTuningR	curStatus	disMacro	discharge	effective
2	RSF RSF 3RD	p:stm_campi	marker	p:stm_campi	AV7	Airflow Setpo	TL2	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName	marker	marker
3	RSF SUBZON	p:stm_campus:r:22ac47a1	p:stm_campi	AV6	NIGHT COOL SETPOINT	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
4	RSF RSF BSM	p:stm_campi	marker	p:stm_campi	AV28	Night Heating Setpoint	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName			
5	RSF VAV-4-2f	p:stm_campus:r:2296fcb5	p:stm_campi	AO3	REHEAT VLV	TL6	ANALOG_OU	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName			
6	RSF RSF Pow	p:stm_campus:r:21fcc75a	p:stm_campi	AV613	7 HN2 KW	TL13	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName			
7	12603 RSF F	p:stm_campus:r:22ac3640-0787dfe9													
8	12553 RSF Vi	p:stm_campus:r:22ac3d5e-e57774eb													
9	RSF RSF HUC	p:stm_campus:r:22ac3b27	p:stm_campi	MSV1	Mode										
10	RSF RSF 1ST	p:stm_campus:r:2296e958-88ac7d6a	p:stm_campus:r:2296e958-88ac7d6a	10102 RSF 1ST FLR VAV-E1-101											
11	RSF LS1 Ener	p:stm_campus:r:1f587070-df7ac718													
12	RSF RSF Pow	p:stm_campus:r:21fcc75a	p:stm_campi	AV1109	12 ELEV 1 Voltage A-B	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
13	RSF RSF OPE	p:stm_campi	marker	p:stm_campi	AV2	RM HEAT SETPOINT	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName	marker		
14	RSF VAV-4-2f	p:stm_campus:r:2296fd2b	p:stm_campi	BI3	OCC_UNOCC	BINARY_INPI	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
15	RSF AHU-E11	p:stm_campus:r:21fcc46f	p:stm_campi	BV24	MODE 4 BV	TL43	BINARY_VALI	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName			
16	10145 RSF 3f	p:stm_campus:r:2296e958-d9ed7405													
17	RSF Radiant	p:stm_campus:r:22a059bf	p:stm_campi	AV16	COOL_SETPOINT	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
18	RSF RSF Pow	p:stm_campus:r:21fcc75a	p:stm_campi	AV809	9 AC-1 Voltage A-B	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
19	RSF RSF 1ST	p:stm_campi	marker												
20	RSF RSF C Vi	p:stm_campi	marker	p:stm_campi	AV7	Airflow Setpo	TL2	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName	marker	marker
21	RSF RSF 3RD	p:stm_campi	marker	p:stm_campi	AV28	Night Heating Setpoint	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName			
22	RSF Main Cu	p:stm_campus:r:1f587070-bf759d52													
23	RSF RSF VAV	p:stm_campi	marker	p:stm_campi	AI5	Airflow	TL1	ANALOG_INF	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName	marker	marker
24	RSF AHU-TS2	p:stm_campus:r:21fcc60b	p:stm_campi	BO5	EVAP PMP SS	BINARY_OUT	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
25	RSF RSF CM	p:stm_campus:r:229703ba	p:stm_campi	MSV1	Mode										
26	RSF RSF 1ST	p:stm_campus:r:22ac3111	p:stm_campus:r:22ac30bc-9f16f266	12002 RSF 1ST FLR VAV TS1 102											
27	RSF RSF 3RD	p:stm_campi	marker	p:stm_campi	AI1	Room Tempe	TL3	ANALOG_INF	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName	marker	marker
28	RSF VAV-4-1f	p:stm_campus:r:2296fd49	p:stm_campi	AV25	Temperature Deadband	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
29	RSF AHU-TS1	p:stm_campi	marker	p:stm_campi	AV37	RA DEWPOINT	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName			
30	RSF RSF WIN	p:stm_campus:r:2296f115	p:stm_campi	AV7	RSF FLR3 SW WT 30MIN AV	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	ok	\$equipRef\$navName				
31	RSF VAV-4-2f	p:stm_campus:r:2296fc06	p:stm_campus:r:2296fb53-3aaef91d	10415 VAV-4-207-HUDDLE RM223											
32	RSF VAVTN2	p:stm_campi	marker	p:stm_campi	AV7	Airflow Setpo	TL2	ANALOG_VAL	marker	p:stm_campi	p:stm_campi	unknown	\$equipRef\$navName	marker	marker

## Controls, Operations, & Optimization

All

- Std 223P / BRICK

Pritoni / Bender

Perini, Marco, Daniele Antonucci, Rocco Giudice, Marco Savino Piscitelli, and Alfonso Capozzoli. 2025. "BrickLLM: A Python Library for Generating Brick-Compliant RDF Graphs Using LLMs." *SoftwareX* 30 (May):102121.

<https://doi.org/10.1016/j.softx.2025.102121>.

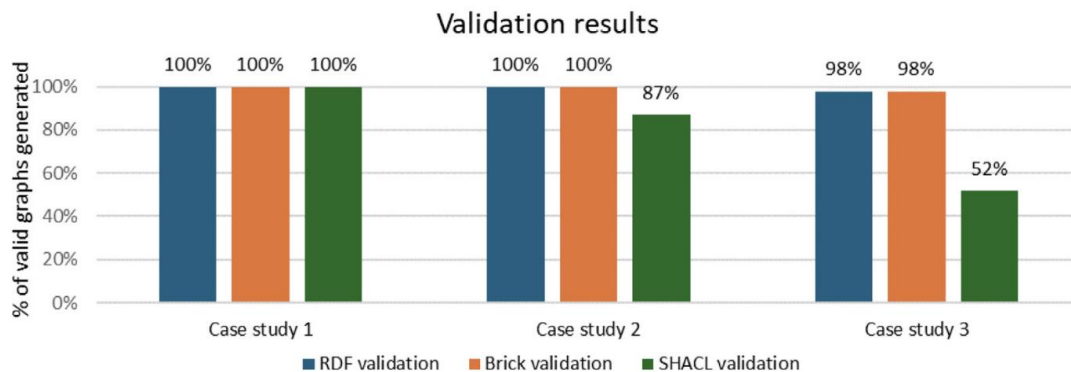


Fig. 5. Results of the validation process of the structured workflow on the different case study configurations.

- Haystack

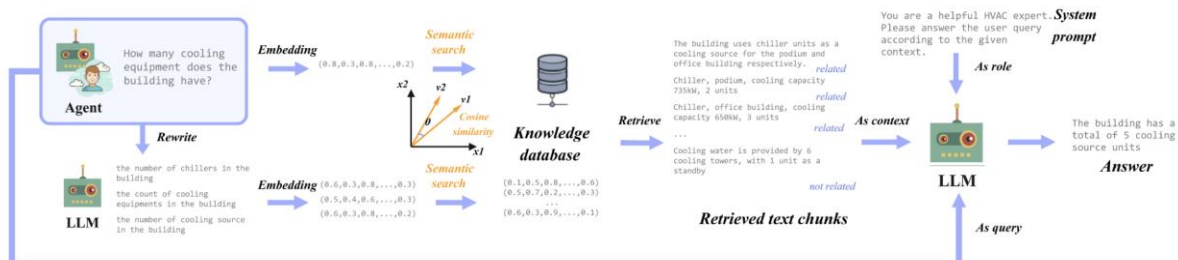
TBD

No action

- LLMs

Xiao, Tong, and Peng Xu. 2024. "Exploring Automated Energy Optimization with Unstructured Building Data: A Multi-Agent Based Framework Leveraging Large Language Models." *Energy and Buildings* 322 (November):114691.

<https://doi.org/10.1016/j.enbuild.2024.114691>.



## Design & Construction

All

- IBPSA BDE

Rao

BEM Output Reporting, need to coordinate with Std211

- BuildingSync Translator

Marzullo

Workflows built on top of OpenStudio standards. This was a big update but will allow us to more easily maintain. Needs the next use case to focus on. Want to handle the different level of audits (0,1,2).

Connecting the inputs from the XML to the measures.

Balbach--would like the have a “footprint” import and not use create typical bar measure.

This is possible, but would require labeling. The advantage would be to improve system sizing.

- City Scale Building Formats

TBD

GeoJSON, CityGML, ...

- BEM

Lots of items related to LLMs and BEMs. Serious question – are data exchange formats needed if we have LLMs?

Flan-T5-xxl (11B, 0.5K)	Bad	TL	TL	TL	TL	TL	OOM (Out of Memory)
Llama2-chat-hf (13B, 4K)	Bad	Moderate	Moderate	Bad	Bad	Moderate	
Llama3-Instruct (8B, 8K)	Bad	Perfect	Perfect	Perfect	Bad	Perfect	
Falcon-instruct (7B, 2K)	Bad	Bad	Bad	Bad	Bad	Bad	
Falcon2-11B (11B, 8K)	Bad	Perfect	Perfect	Perfect	Moderate	Moderate	TL (Token Limit)
ChatGLM3 (6B, 8K)	Bad	Bad	Bad	Moderate	Bad	Bad	
LongAlign (13B-64K)	Bad	Moderate	Moderate	Moderate	Bad	Bad	Perfect
Qwen1.5-chat (14B, 8K)	Bad	Perfect	Perfect	Perfect	Bad	Bad	
Qwen2-Instruct (7B, 131K)	Bad	Moderate	Perfect	Perfect	Bad	Moderate	
Longchat (13B, 16K)	Bad	Bad	Bad	Bad	Bad	Bad	
Vicuna-v1.5 (13B, 16K)	Bad	Bad	Moderate	Moderate	Bad	Bad	Moderate
Mistral-Instruct-v0.2 (7B, 8K)	Bad	Bad	Perfect	Perfect	Moderate	Moderate	
Mistral-Instruct-v0.3 (7B, 32K)	Bad	Perfect	Perfect	Perfect	Moderate	Moderate	
SOLAR-Instruct (10.7B, 4K)	Bad	Perfect	Perfect	Perfect	Moderate	Perfect	
Sakura-Instruct (10.7B, 4K)	Bad	Perfect	Perfect	Perfect	Moderate	Perfect	Bad
Gemma-it (7B, 8K)	Bad	Perfect	Perfect	OOM	OOM	OOM	
Gemma2 (9B, 8K)	Bad	Perfect	Perfect	Perfect	Bad	Bad	
Yi-1.5-Chat (9B, 16K)	Bad	Bad	Moderate	Moderate	Bad	Bad	
	Zero-shot	One-shot	Two-shot	Three-shot	Explanation	Division	

Fig. 12. Test results of prompt engineering for Exploratory Task 1 in ABEM.

- Jiang, Gang, and Jianli Chen. 2025. "Efficient Fine-Tuning of Large Language Models for Automated Building Energy Modeling in Complex Cases." *Automation in Construction* 175 (July):106223. <https://doi.org/10.1016/j.autcon.2025.106223>.
- Jiang, Gang, Zhihao Ma, Liang Zhang, and Jianli Chen. 2024. "EPlus-LLM: A Large Language Model-Based Computing Platform for Automated Building Energy Modeling." *Applied Energy* 367 (August):123431. <https://doi.org/10.1016/j.apenergy.2024.123431>.
- Jiang, Gang, Zhihao Ma, Liang Zhang, and Jianli Chen 2025. "Prompt Engineering to Inform Large Language Model in Automated Building Energy Modeling." *Energy* 316 (February):134548. <https://doi.org/10.1016/j.energy.2025.134548>.

Can we validate with LLMs? Online updating of the m

- Forth, Kasimir, and André Borrmann. 2024. "Semantic Enrichment for BIM-Based Building Energy Performance Simulations Using Semantic Textual Similarity and Fine-Tuning Multilingual LLM." *Journal of Building Engineering* 95 (October):110312. <https://doi.org/10.1016/j.job.2024.110312>.



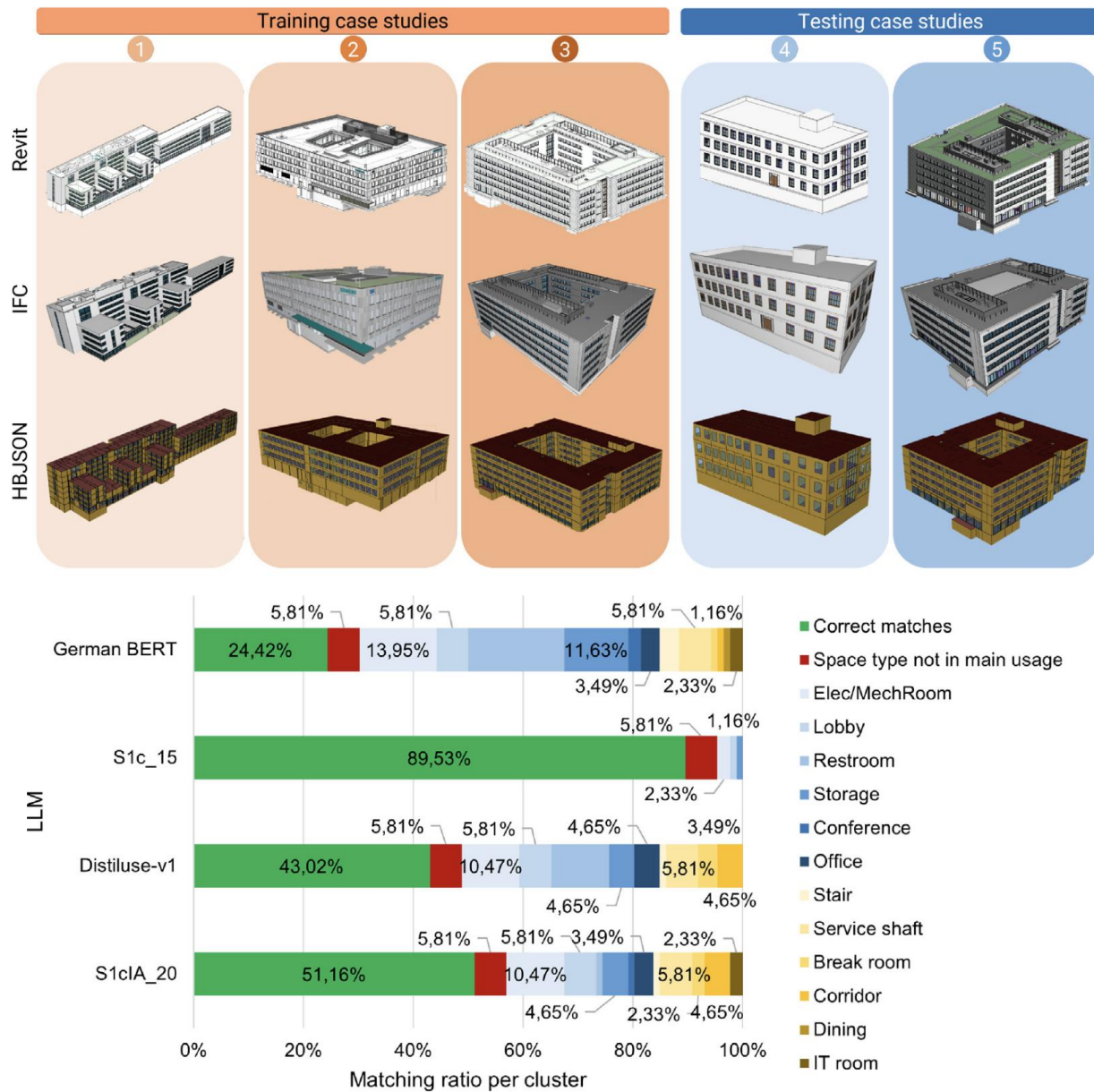


Fig. 12. Error analysis of matching space types to rooms using different mono- and multilingual base-models and fine-tuning strategies.

Public Agency Programs, Organizational Updates, Compliance, and Reporting

- ASHRAE Building EQ
- Asset Score / QBAT

All

Roth

Goel / Borkum



Asset Score – nationalized standardized tool for building asset. QBAT was built on top of this tool with only a minimum number of inputs. Adding religious buildings and water heaters.

Can import BuildingSync into Audit Template and then convert to Asset Score.

- Audit Template Borkum

Export to BuildingSync enabled. There is a new data dictionary feature – can look at the definition and unit of measures. It is handled in LaTeX, so negative exponents are allowed. Updated to most recent version of BuildingSync with backwards compatibility.

Added Cambium and eGRID factors to Audit Template. Used for emissions and charts and visualizations.

Added facilities and subfacilities for installations/campuses. Can export to CTS spreadsheet format.

- UBID Borkum

UBID – standardized format for representing a building id. ESPM has added UBID as a standard ID now. State of MD, OH, and OR have adopted at the state level.

- Home Energy Score Balbach

Rating system for single family detached home, manufacture home, or single unit in MF. There are credentials on how to create the home energy score. The HES is created with EnergyPlus/OpenStudio/HPXML. The file can be very complicated, and it simplifies it to a standardized home that is then run used. This is acted on the XML.

- CTS / FEMP Brauch

- SEED Platform Long

Status: 40+ jurisdictions, covering 10% of US commercial gross floor area

Recent Feature Work: Accountability hierarchies, visualizations, portfolio analysis, std100 targets, BuildingSync v2.6 support, supporting campus data (initial effort). Web frontend updates

# Groups / Campuses

Actions:

- Select All (5/2)
- Select None
- Selected Properties (1 selected)
- Add/Remove Labels
- Add/Update UBID
- Change Inventory Access Level
- Compare UBIDs
- Data Quality Check
- Decode UBID
- Email
- Export
- Export to Audit Template
- FEMP CTS Reporting Export
- Geocode
- Delete
- Unassign
- Run Analysis
- Set Update Time to Now

track building  
gs.

analyses!

SITE 7

WAREHOUSE, SCHOOL, APARTMENT COMPLEX, HOSPITAL, LARGE OFFICE BUILDING

EVSE E1, EVSE E2, Meter 1, Meter 2, Meter 3

SITE 1

WAREHOUSE, SCHOOL, APARTMENT COMPLEX, HOSPITAL, LARGE OFFICE BUILDING, DISTRICT ENERGY SYSTEM

Group - Systems & Services

Dashboard Properties Systems & Services Meters Map

Group: Group2

Create System

DES - Cooling Systems

Name	DES Type	Capacity (Tons)	Count	Actions
DES1	Boiler	2.5	1	+ service

DES - Heating Systems

Name	DES Type	Capacity (MMBtu)	Count	Actions
DES2	Boiler	2.5	1	+ service

EVSE Systems

Name	EVSE Type	Power (kW)	Voltage (V)	Count	Actions
EVSE	Level1-120V	6.6	240	1	+ service

Battery Systems

Name	Efficiency (%)	Energy Capacity (kWh)	Power Capacity (kW)	Voltage (V)	Actions
Battery1	90	80	20	480	+ service

Images of SEED Platform and Campus by Marj Schott, NREL

NREL | 8

SEED PLATFORM™

Property: 123 Street Ave

Actions: Select Action, Cycle, Profile, Labels, Groups

History

Field	Value	Created
Address Line 1	123 Street Ave	2025-04-02T18:20:11.656279-07:00
Address Line 2		2025-03-20T14:12:58.839197-07:00
Associated Tax Lot ID	10130105	2025-03-20T14:12:58.839197-07:00
City		
Cooling System Object		
Created		2025-04-02T18:20:11.656279-07:00
Custom ID 1		

SEED PLATFORM™

Property: 123 Street Ave

Actions: Select Action, Cycle, Profile, Labels, Groups

History

Field	Value	Created
Address Line 1	123 Street Ave	2025-04-02T18:20:11.656279-07:00
Address Line 2		2025-03-20T14:12:58.839197-07:00
Associated Tax Lot ID	10130105	2025-03-20T14:12:58.839197-07:00
City		
Cooling System Object		
Created		2025-04-02T18:20:11.656279-07:00
Custom ID 1		

11:30 New Business

Program for Las Vegas: building data life cycle

SSPC232: Data Protocols, Nicholas Long  
 Design side, gbXML: Chris Balbach  
 BuildingSync: Simmons  
 Std229: Supriya

File Formats

- JSON, YML, XML, CSV, etc. What is the version that people are using?
- When to use JSON vs XML?
- Validation

All

Lots of misunderstanding of the data format and how easy it is to go between it. Similar on better data management.

Workshop? **Forum?** There is a gbJSON. Who feels strongly about this?

- Create a forum request for Vegas? Balbach/Anton, Long

BuildingSync Data Standard / Normative Appendix /  
Guideline

Marzullo / Simmons

Talking to Standard 211 about how BuildingSync can be part of the normative appendix.

- What goes into the normative appendix?
  - The structure for updating?
  - The schema itself?
  - The use case documentation?
  - The definition on how to create the components in BuildingSync?
  - Link to data.ashrae.org on tools to leverage BuildingSync?

Look into 205 and GPC20.

6.2.7 Quality Assurance Reporting. Results of the quality assurance review shall be reported to the AHJ on the “Quality Assurance” worksheet of the Normative Annex C forms. Alternatively, compliance with the standard can be certified by electronic signature of the qualified energy auditor and submission to the AHJ of all data fields needed to report the audit results and validate the credentials of the auditor, through transfer of a CSV file or via a standard XML format such as the Department of Energy’s BuildingSync or any other method as approved by the AHJ.





Need to ensure that it grows for all use cases.

Would maybe need to grow the 211 committee to handle new use cases.

,

Updates to data.ashrae.org

All

APPLICATIONS 	<b>Standard 211:</b> ASHRAE Commercial Building Energy Audits To establish consistent practices for conducting and reporting energy audits for commercial buildings.			<b>IBPSA:</b> Compliance and Certification Reporting
RULESETS AND "QUERYING" 	<b>Schematron:</b> A rule-based validation language Used for validation, data reporting, and QA, QC, and filtration	<b>BuildingSync Asset Extractor (BAE):</b> Python package that allows users to process a BuildingSync file to extract asset information that can then be imported into the SEED Platform	<b>Standard 229P:</b> Protocols for Evaluating Ruleset Implementation in Building Performance Modeling Software This standard establishes tests and acceptance criteria for implementation of rulesets (e.g., modeling rules) and related reporting in building performance modeling software.	
OBJECT MODELS AND ONTOLOGIES 	<b>BuildingSync-gem:</b> A repository of helpers for reading and writing BuildingSync XML files For using that data to drive energy simulations of the subject building	<b>Standard 223P:</b> Designation and Classification of Semantic Tags for Building Data To provide a dictionary of uniform semantic tags. These tags enable interoperable use of descriptive information on building data.	<b>BRICK, Haystack:</b> Standardized semantic metadata about a building To improve the understanding and management of building data	
SCHEMAS 	<b>HPXML:</b> High Performance XML Creates a common language for the industry's transactions, making it easier and less expensive to collect and exchange information among contractors, program administrators, implementers, government, evaluation consultants, and other information trading partners.	<b>BuildingSync:</b> To address the lack of an industry-standard collection format for energy audit data	<b>gbXML:</b> Green Building XML It is the language of buildings that allows disparate 3D building information models (BIM) and architectural/engineering analysis software to share information with each other	<b>Standard 205P:</b> Representation of Performance Data for HVAC&R and Other Facility Equipment To facilitate automated sharing of equipment performance characteristics by defining data models and data serialization formats.
DATA DICTIONARIES 	<b>BEDES:</b> Building Energy Data Exchange Specification A dictionary of terms and definitions commonly used in tools and activities that facilitate the exchange of information on building characteristics and energy use			<b>ASHRAE Terminology:</b> Comprehensive online glossary of the built environment
PROTOCOLS AND SPECIFICATIONS 	<b>Data Models Specification / Standard 232P:</b> Schema-Based Building Data Model Protocols Define building data structures and conventions for data exchange among building performance models  <b>IPBSA:</b> - Data Models Working Group Specification - Climate Data Model Specification	<b>Guideline 20:</b> Documenting HVAC&R Work Processes and Data Exchange Requirements To define a systematic procedure for documenting work processes (Use Cases) and data exchange requirements for specific HVAC&R activities.	<b>JSONSchema:</b> Vocabulary that allows you to annotate and validate JSON documents  <b>XSD:</b> XML Schema Definition	

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Update 232P to SSPC232

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Adjourn