

The role of standards in enabling a data driven UK real estate market

Example standards	Live or planned project?	Lifecycle / discipline relevant?													Primary area of focus for the standard	What asset type is it most relevant for?	Cost	Type of standard	Authority / owner	Link	Comment
		Land	Planning	Design & Construction	Occupation	Operation (PM, PM, AM)	Valuation	Lending	Conveyancing	Sales / buying	Demolition	Financial reporting	Lending								
1-Wire	Live	N	Y	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free					
3D Tiles	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
3dP	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
4G/WPAN	Live	N	Y	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free					
Alljoyn	Live	N	Y	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free					
ANSSC	Live	Y	Y	Y	Y	N	N	N	N	N	N	Y	Y	The asset itself	Infrastructure	Free					
ANT	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	All of the above	Free					
ARGUS Enterprise Property Asset file	Live	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	The asset itself	Commercial	Paid for					
ARML2.0	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
ASTM Uniformat II	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	Resi & Comm	Free			https://www.astm.org/Standards/E1557.htm		
BACnet	Live	N	Y	Y	Y	Y	N	Y	N	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free			http://www.bacnet.org/		
BIM Collaboration Format API version 2.1 (S1006)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	API	Building Smart	https://github.com/BuildingSMART/BCF-API		
BIM Collaboration Format XML (S1005)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	XML		https://github.com/BuildingSMART/BCF-XML		
Bluetooth	Live	N	Y	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free		Bluetooth Special Interest Group	https://www.bluetooth.com/		
BOMA / OSORE Industrial	Live	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE / BOMA	https://www.oscre.org		
BOMA / OSORE Multi	Live	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / BOMA	https://www.oscre.org		
BOMA / OSORE Office	Live	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE / BOMA	https://www.oscre.org		
BOMA / OSORE Retail	Live	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE / BOMA	https://www.oscre.org		
BOMA / OSORE Building	Live	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / BOMA	https://www.oscre.org		
BREEAM Technical Standards	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Sustainability	All of the above	Free		BRE			
BRICK	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Free	Schema	Open Source	https://brickschema.org	Brick is an open-source effort to standardize semantic descriptions of the physical, logical and virtual assets in buildings and the relationships between them.	
BS 1192-4:2014 (COBIE)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema				
BS EN 15221-4 : 2011	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	Occupier	Commercial	Paid for	Taxonomy, classifications	BSI			
BS EN 15643 Part 2: 2011 Environmental performance	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Sustainability	Resi & Comm	Paid for	Environmental performance		https://shop.bsigroup.com/ProductDetail/?pid=000000000030259777		
BS EN 15643 Part 3: 2012 Social performance	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Occupier	Resi & Comm	Paid for	Social performance	BSI		Social performance	
BS EN 15643 Part 4:2012	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	Resi & Comm	Paid for	Economic performance				
Building Device naming standards (BDNS)	Planned	N	N	Y	Y	Y	N	N	N	N	N	N	N	The asset itself	Resi & Comm	Free			https://www.w3.org/community/bdns/		
C-Bus	Live	N	N	Y	Y	Y	Y	N	N	N	N	N	N	IoT	Resi & Comm	Free	Protocol	Schneider Electric	https://www.cslipal.com/enabledprogram		
Cat: eBRIIM App Profile: Earth Observation Products	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Catalogue Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
CC-Link Industrial Networks	Live	N	N	N	Y	Y	Y	Y	N	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Protocol	Mitsubishi Electric Corporation	https://eu.cc-link.org/en/		
CDB	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
CityGML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Con 29	Live	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Asset location	Resi & Comm	Paid for		Law Society	https://www.lawsociety.org.uk/support-services/advice/articles/con29-forms/		
CON29DW	Live	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Asset location	Resi & Comm	Paid for		Law Society	https://www.lawsociety.org.uk/support-services/advice/articles/con29-forms/		
CON29M	Live	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Asset location	Resi & Comm	Paid for		Law Society	https://www.lawsociety.org.uk/support-services/advice/articles/con29-forms/		
Con29O	Live	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Asset location	Resi & Comm	Paid for		Law Society	https://www.lawsociety.org.uk/support-services/advice/articles/con29-forms/		
Coordinate Transformation	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
CSDGM	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		FGDC	https://www.fgdl.gov/metadata/csdgm-standard		
CSW	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free					
DALI	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free		DIA	https://www.digitalilluminationinterface.org/dali/		
Data Handling and Cyber Crime Professional Statement (RICS)	Planned	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Principles based	RICS			
DDS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Data Exchange layer				
DSI	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Specification	MIPI Alliance	https://www.mipi.org/		
DTLS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Protocol			Datagram Transport Layer Security	
Dynet	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Free	protocol	Philips Lighting	https://en.wikipedia.org/wiki/DyNet		
EC-GSM-IoT	Live	N	N	Y	Y	Y	N	Y	N	Y	N	N	N	IoT	All of the above	Free			https://www.gsma.com/iot/mobile-iot-technology/ec-gsm-iot/		
Eddystone	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Asset location	All of the above	Free	Beacon format specification	Google	https://developers.google.com/beacons/eddystone		
EnOcean	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Paid for		EnOcean			
EO-GeoJSON	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
EPC	Live	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Sustainability	Resi & Comm	Free		MHCLG	https://www.eprregister.com/	Register run by LandMark Information Group on behalf of MHCLG	
EPRA Best Practice Recommendations	Live	N	N	N	N	N	Y	Y	N	Y	N	Y	Y	The asset itself	Commercial	Free	Reporting guidelines	EPRA	https://www.epra.com/application/files/7415/0306/4407/EPRA_BPR_Guidelines_20		
Filter Encoding	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
GDPR	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free		ICO (UK)	https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/		
GeoAPI	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Geography Markup Language	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
GeoPackage	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
GeoRSS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
GeoSciML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		



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		Land	Planning	Design & Construction	Occupation	Operation (PM, PM, AM)	Valuation	Leasing	Conveyancing	Sales / buying	Demolition	Financial reporting	Lending							
GeoSPARQL	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
Geospatial eXtensible Access Control Markup Language (GeoXACML)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
Geospatial User Feedback (GUF)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
GeoTiff	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
Global Real Estate Sustainability Benchmark	Live	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Sustainability	All of the above	Paid for		GRESB	https://gresb.com/	
GML in JPEG 2000	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
GPKG	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC		
Green Globes	Live	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Sustainability	Resi & Comm	Paid for	Certification	Green Building Initiative	https://thegebi.org/green-globes-certification/what-it-costs/	
GRI CRESS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Sustainability	Resi & Comm	Free	reporting framework	Global Reporting Initiative	Live	
GroundwaterML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
HACT / OSCRE Affordability Statement	Live	N	N	N	Y	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Aggregate Case Metrics	Live	N	N	N	Y	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Arrears Report	Live	N	N	N	Y	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Asset Inventory	Live	N	N	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Asset List	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Available Appointments	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Care Case File	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Care Referral	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Care Referral Outcome Feedback	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Care Referral Response	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Care Services	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Component Certificates	Live	N	N	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Component Certification	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Create Rent Account	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Customer Data	Live	N	N	N	Y	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Customer Needs Assessment	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Customer Risk Assessment	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Development Benchmarking	In progress	Y	Y	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Development Handover File	In progress	Y	Y	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Job Status Update	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Lease Or Freehold Responsibilities	In progress	Y	N	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Nominations	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Planned Maintenance Data Migration	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Program Of Work	Live	N	Y	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Program Of Work Instruction	Live	N	Y	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Property Marketing Information	Live	N	N	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Raise Repair	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Rent Statement	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Request Additional Work Approval	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Request Appointment	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Request Appointment Response	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Request Available Appointments	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Schedule Repair	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Service Charge Estimates	In progress	Y	Y	Y	N	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Update Component Accounting	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Void Income Loss Statement	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
HACT / OSCRE Work Order Complete	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE / HACT	https://www.oscre.org	
Haystack	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	All of the above	Free	Schema	Open source	https://project-haystack.org	Open source initiative created to streamline working with data from the Internet of Things. It standardises semantic data models and web services.
HDFS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
HTTP/2	Live	N	N	N	N	N	N	N	N	N	N	N	N			Free				
HyperCat	Live	N	N	N	N	N	N	N	N	N	N	N	N			Free				
I3s	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
IBPDI (International Building Performance & Data Initiative)	Live	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	The asset itself	Resi & Comm	Free		IBPDI	https://ibpdi.org/about/	
ICMS	Live	N	N	Y	Y	Y	Y	Y	N	N	Y	Y	N	The asset itself	All of the above	Free	XML	RICS	https://www.rics.org/globalassets/icsms-data-standard_new.pdf	ICMS mandatory for RICS members
IEC 61850	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Infrastructure	Paid for		IEC	https://www.iec.ch/	
IEC 61968-4	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Paid for		IEC	https://www.iec.ch/	Interfaces for Records and Asset management
IEC 61968-6	Live	N	N	Y	N	N	N	N	N	N	N	N	N	The asset itself	All of the above	Paid for		IEC	https://www.iec.ch/	Interfaces for Maintenance & Construction
IEC 61970	Live	N	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Sustainability	All of the above	Paid for	common information model	IEC	https://www.iec.ch/	Energy management system application program interface



The role of standards in enabling a data driven UK real estate market

Example standards	Live or planned project?	Lifecycle / discipline relevant?													Primary area of focus for the standard	What asset type is it most relevant for?	Cost	Type of standard	Authority / owner	Link	Comment
		Land	Planning	Design & Construction	Occupation	Operation (PM, PM, AM)	Valuation	Lending	Conveyancing	Sales / buying	Demolition	Financial reporting	Lending								
IEEE 802	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Protocol	IEEE	https://en.wikipedia.org/wiki/IEEE_802		
IES City	Live	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	The asset itself	Infrastructure	Free	Smart City framework	IES / NIST	https://s3.amazonaws.com/nist-scrg/smartcityframework/files/ies-city_framework		
IFC h5DD	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Free	Data Dictionary	BuildingSMART	http://b5dd.buildingsmart.org/		
ILMS (International Land Measurement Standard)	Live	Y	Y	Y	N	N	Y	N	Y	Y	N	N	N	Asset location	All of the above	Free		ILMS Coalitiona	https://ilmsc.org/		
IndoorGML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC			
Infra Asset Management (TR1010)	Live	Y	Y	Y	N	Y	Y	N	N	N	N	N	N	The asset itself	Infrastructure	Free			https://www.buildingsmart.org/wp-content/uploads/2018/01/18-01-09-AM-TR1010		
INREV Data Delivery	Live	N	N	N	N	N	Y	N	N	Y	N	Y	Y	The asset itself	Commercial	Free	Excel	INREV	https://www.inrev.org/library/inrev-standard-data-delivery-sheet-sdds		
INREV Performance Measurement	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	The asset itself	Commercial	Free		INREV	https://www.inrev.org/library/inrev-standard-data-delivery-sheet-sdds		
INREV Property Valuation	Live	N	N	N	N	N	Y	N	N	Y	N	Y	Y	The asset itself	Commercial	Free	Taxonomy	INREV	https://www.inrev.org/taxonomy/term/116		
INREV Reporting Guidelines	Live	N	N	N	N	N	Y	N	N	Y	N	Y	Y	The asset itself	Commercial	Free		INREV	https://www.inrev.org/guidelines/module/FR/reporting/about		
IOTDB	Live	N	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	IoT	All of the above	Free	IoT data base	Apache	https://iotdb.apache.org/#/		
IoTivity	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Free	specifications	Open Connectivity Foundation			
IPMS Data Standard	Live	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	The asset itself	Resi & Comm	Free	XML	RICS	https://www.rics.org/globalassets/ipms-data-standard_new.pdf	IPMS mandatory for RICS members	
IPSO Application Framework	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Free	Protocol	Open Mobile Alliance	https://www.omaspecworks.org/		
IPv6	Live	N	Y	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Internet Protocol				
ISO 12006-2:2015	Live	N	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	The asset itself	All of the above	Paid for	classification framework	ISO	https://www.iso.org/standard/61753.html		
ISO 12655	Live	N	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Sustainability	Resi & Comm	Paid for	Energy performance reporting	ISO	https://www.iso.org/standard/51634.html		
ISO 12911	Live	N	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	The asset itself	All of the above	Paid for	Specification framework	ISO	https://www.iso.org/standard/52155.html		
ISO 13153-2012	Live	N	Y	Y	Y	Y	N	N	N	N	N	N	N	Sustainability		Free	Design process framework	ISO	https://www.iso.org/standard/53401.html	Environmental Management System	
ISO 14001-2015	Live	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Sustainability	All of the above	Paid for					
ISO 15686	Live	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	Y	The asset itself	All of the above	Paid for	Life cycle principles	ISO	https://www.iso.org/standard/45798.html		
ISO 16739-1:2018	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Paid for	Data Schema	ISO	https://www.iso.org/standard/70303.html		
ISO 19115-1:2014	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Asset location	All of the above	Paid for	Schema	ISO	https://www.iso.org/standard/53798.html		
ISO 19650-2	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Paid for			https://shop.bsigroup.com/ProductDetail/?pid=0000000000030333757	BIM Level 2 is mandatory where Government is the client	
ISO 19650-3	Planned	N	Y	N	Y	Y	Y	Y	Y	N	N	Y	Y	The asset itself	All of the above	Paid for		BSI			
ISO 19650-5	Planned	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	The asset itself	All of the above	Paid for					
ISO 22301-2019	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Occupier	Resi & Comm	Paid for		ISO	https://www.iso.org/standard/75106.html		
ISO 23386-2020	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Paid for	Data dictionary methodology	ISO	https://www.iso.org/standard/75401.html		
ISO 26000-2010	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Occupier	All of the above	Paid for	guidance / terms	ISO	https://www.iso.org/standard/42546.html		
ISO 27001-2013	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Paid for	Requirements	ISO	https://www.iso.org/standard/54534.html	Information technology — Security techniques — Information security management systems — Requirements	
ISO 41001-2018	Live	N	N	Y	Y	Y	Y	Y	N	Y	N	N	N	Occupier	Commercial	Paid for		BSI	https://shop.bsigroup.com/ProductDetail/?pid=0000000000030378513		
ISO 44001-2017	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Paid for		BSI	https://shop.bsigroup.com/ProductDetail/?pid=0000000000030353016		
ISO 50001	Live	N	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Sustainability	Resi & Comm	Free	Data use framework	ISO	https://www.iso.org/iso-50001-energy-management.html	For organizations committed to addressing their impact, conserving resources and improving the bottom line through efficient energy management, we developed ISO 50001	
ISO 52000-1:2017	Live	N	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Sustainability	Resi & Comm	Paid for	General framework	ISO	https://www.iso.org/standard/85601.html	Energy performance of buildings	
ISO 52003	Live	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Sustainability	Resi & Comm	Paid for	Energy performance measure	ISO	https://www.iso.org/standard/65667.html		
ISO 55000-2014	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Paid for	principles and terminology		https://www.iso.org/standard/55088.html		
ISO/FDIS 23387	Planned	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Free	Data templates	ISO	https://www.iso.org/standard/75403.html		
ISO/TS 37151:2015	Live	N	Y	N	Y	Y	N	N	N	N	N	N	N	Occupier	All of the above	Paid for	recommendations	ISO	https://www.iso.org/standard/61067.html	Smart community infrastructures — Principles and requirements for performance metrics	
KML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
KNX	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm			KNX		Striving to be a single stable and affordable system technology for commercial and residential buildings.	
LandInfra/InfraGML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
LAS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
LEED	Live	Y	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Sustainability	Resi & Comm	Paid for	Measurement standard	LEED	https://www.buildinggreen.com/leed		
Leesman LMI Score	Live	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	Occupier	Commercial	Paid for	Measurement standard	Leesman	https://www.leesmanindex.com/		
LLC (Local Land Charges)	Live	Y	Y	N	Y	N	Y	Y	Y	Y	N	N	Y	Asset location	Resi & Comm	Paid for	Local Land Charge data	LA / HMLR	https://search-local-land-charges.service.gov.uk/	Mandatory for conveyancing	
Location Services (OpenLS)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
LWM2M	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Free	Protocol	Open Mobile Alliance	https://www.omaspecworks.org/		
Moving Features	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
MSCI (IPD) schema	Live	N	N	N	Y	N	Y	Y	N	Y	N	Y	Y	The asset itself	All of the above	Paid for		MSCI			
NetCDF	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
NFC	Live	N	N	N	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Protocols				
NLIS	Live	Y	Y	N	N	N	Y	Y	Y	Y	N	N	Y	The asset itself	Residential	Free			https://www.nlis.org.uk/what-is-nlis		
NRM	Live	N	N	Y	Y	Y	N	N	N	N	Y	N	N	The asset itself	All of the above	Free	RICS				
oBIX	Live	N	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	IoT	Resi & Comm	Free	XML	OASIS			
Observations and Measurements	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
OGC API - Features	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Omniclass	Live	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Free	Classification system	Omniclass.org	http://beta.omniclass.org/		
ONS Methodology	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free	Statistics methodology	ONS	https://www.ons.gov.uk/methodology/methodologicalpublications/generalmethodo		



The role of standards in enabling a data driven UK real estate market

Example standards	Live or planned project?	Lifecycle / discipline relevant?													Primary area of focus for the standard	What asset type is it most relevant for?	Cost	Type of standard	Authority / owner	Link	Comment
		Land	Planning	Design & Construction	Occupation	Operation (PM, PM, AM)	Valuation	Leasing	Conveyancing	Sales / buying	Demolition	Financial reporting	Lending								
OPC Data Access Specification	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	real time data specifications	OPC	https://opcfoundation.org/		
Open GeoSMS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Open Standards for Regulation (TRI011)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Report	BuildingSmart	https://www.buildingsmart.org/wp-content/uploads/2017/11/17-11-08-Open-Standards-for-Regulation.pdf		
OpenMI	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
OpenSearch for EO	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
OpenSearch Geo	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Ordering Services Framework for Earth Observation Products	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
OSCRE Action Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Action Request Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Additional Enquiry Answer	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Additional Enquiry Question	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Apportionment Calculation	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Buyer Aborted Deal Notify	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Buyers Initial Communication Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Buyers Memorandum Of Completion Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Buyers Memorandum Of Exchange Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Commercial Introduction Send	Live	Y	N	N	N	N	N	Y	N	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Commonhold Information Form Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Completion Date Proposal Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Completion Information Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Completion Information Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Contract Bundle Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Contract Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Contractual Completion Notice Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Cost Exchange	Live	N	N	N	Y	N	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Deeds Schedule Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Dispatch Work Order	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Evidence Of Title Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Exchange Parameters Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Failure Completion Notice Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Fixtures Fittings Contents Form Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Action Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Action Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Order Query	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Query Search Result	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Response Query	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Result Query Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Search Order Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Search Results Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Status Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Status Request Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Forward Status Update	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Housemark PLP	Live	N	N	N	N	Y	N	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Key Undertaking Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Leasehold Information Form Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Non Standard Deposit Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Portfolio Lease Summary	Live	N	N	N	N	N	N	N	N	N	N	Y	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Portfolio Update	Live	N	N	N	N	N	N	N	N	N	N	Y	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Proof Of Discharge Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Property Management Reporting Information	Live	N	N	N	N	Y	Y	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Property Types	Live	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Query Order Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Query Search Order Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Query Search Result Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Ready To Exchange Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Ready To Exchange Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Release Undertakings Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Request Land Charges Bankruptcy Search	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		
OSCRE Request Land Charges Full Search	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org		



The role of standards in enabling a data driven UK real estate market

Example standards	Live or planned project?	Lifecycle / discipline relevant?												Primary area of focus for the standard	What asset type is it most relevant for?	Cost	Type of standard	Authority / owner	Link	Comment
		Land	Planning	Design & Construction	Occupation	Operation (PM, PM, AM)	Valuation	Lending	Conveyancing	Sales / buying	Demolition	Financial reporting	Lending							
OSCRE Request O C With Summary	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Request Official Search Of Part	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Request Official Search Of Whole	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Request Search Of Index Map	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Request Title Known Official Copy	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Response OC With Summary	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Retail Turnover Certification	Live	N	N	N	Y	Y	Y	N	N	N	N	Y	N	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Cost Request Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Cost Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Order Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Request Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Result Query Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Results Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Search Validation Request Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Seller Aborted Deal Notify	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Sellers Initial Communication Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Sellers Memorandum Of Completion Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Sellers Memorandum Of Exchange Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Sellers Property Information Form Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Agricultural Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Assembly Meeting Place Appraisal	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Commercial Listing	Live	N	N	N	N	N	N	Y	N	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Healthcare Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Industrial Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Land Appraisal Report	Live	Y	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Lease	Live	N	N	N	Y	N	N	Y	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Lease Abstract	Live	N	N	N	Y	N	N	Y	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Lease Data	Live	N	N	N	N	N	N	Y	N	Y	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Lodging Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Multifamily Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Office Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Retail Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Senior Housing Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Shopping Center Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Special Purpose Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Send Sports Entertainment Appraisal Report	Live	N	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Space Management information Exchange	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Standard Enquiries Request	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Standard Enquiries Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Status Request Response	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Status Request Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Status Update Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Submit Investment Reporting Data	Live	Y	N	N	N	N	N	N	N	N	N	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Submit Portfolio Information Data	Live	N	N	N	N	N	N	N	N	N	N	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Submit Property Valuation Data	Live	Y	N	N	N	N	Y	N	N	N	N	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Submit Service Request	Live	N	N	N	N	Y	N	N	N	N	N	N	N	Technology / connectivity / Exchange	All of the above	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Transfer Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	Y	Technology / connectivity / Exchange	Residential	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Unit Measurement History	Live	N	N	N	N	N	Y	Y	N	Y	N	N	N	Technology / connectivity / Exchange	Commercial	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OSCRE Validation Response Send	Live	N	N	N	N	N	N	N	Y	Y	N	N	N	Technology / connectivity / Exchange	Resi & Comm	Free	Schema (XML+JSON), UML (XMI)	OSCRE	https://www.oscre.org	
OWS Context	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
OWS Security	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
PAS 1192-3:2014	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Free				
PAS 180	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	Infrastructure	Free	Terminology	BSI	https://www.bsigroup.com/en-GB/smart-cities/Smart-Cities-Standards-and-Publicat	
PAS 182	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	Infrastructure	Paid for	Data Model	BSI	https://shop.bsigroup.com/ProductDetail/?pid=0000000000302000598_&gsz=7.82650782.960558831.1584887833.532875397.1581671797	
Passiv Haus	Live	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Sustainability	Residential	Free	Design standard	Passive Haus Trust	https://passivehouse.com/	
PipelineML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	
prEN 17473	Planned	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above		Data templates	European committee for standardization	https://standards.cen.eu/dyn/www/f?p=204:110@::FSP_PROJECT,FSP_LANG_ID:64240:25&cs=154E73A578587D770F56D6A0D279FC04	
Project Haystack	Live	N	N	Y	Y	Y	Y	Y	N	Y	N	N	N	IoT	Resi & Comm	Free			https://project-haystack.org/	
PubSub	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat	



The role of standards in enabling a data driven UK real estate market

Example standards	Live or planned project?	Lifecycle / discipline relevant?													Primary area of focus for the standard	What asset type is it most relevant for?	Cost	Type of standard	Authority / owner	Link	Comment
		Land	Planning	Design & Construction	Occupation	Operation (PM, PM, AM)	Valuation	Leasing	Conveyancing	Sales / buying	Demolition	Financial reporting	Lending								
PUCK	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Radius Data Exchange input model	Live	N	N	N	Y	Y	Y	Y	N	Y	N	N	N	The Asset itself	Commercial	Free					
ReimTech / OSCRE Lease data standards	Planned	N	N	N	Y	Y	Y	N	Y	N	N	N	N	Technology / connectivity / Exchange	Commercial	Free					
SBEI	Live	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Sustainability	Commercial	Free	Energy performance model	BRE	https://www.bre.co.uk/page.jsp?id=706		
Schema.org	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free			https://schema.org/docs/full.html		
Sensor Model Language	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Sensor Observation Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Sensor Planning Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
SensorML	Live	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	IoT	Resi & Comm	Free	models and an XML encoding	OGC	https://www.ogc.org/standards/sensorml		
SensorThings	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Simple Features	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Simple Features CORBA	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Simple Features OLE/COM	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Simple Features SQL	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
SITES	Live	Y	Y	N	N	N	Y	N	Y	Y	Y	Y	N	Asset location	All of the above	Free	register specification	MHCLG	https://www.gov.uk/government/publications/brownfield-land-registers-data-standards		
SKA	Live	N	N	Y	Y	Y	Y	Y	N	Y	N	N	N	Sustainability	Commercial	Paid for	Rating score	RICS	https://www.rics.org/uk/about-rics/responsible-business/ska-rating/		
Streamlined Energy and Carbon Reporting	Live	N	N	N	Y	Y	Y	Y	N	N	N	Y	Y	Sustainability	Resi & Comm	Free	Reporting standard	BEIS	https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting		
Styled Layer Descriptor	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
SWE Common Data Model	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
SWE Service Model	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Symboling Encoding	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Table Joining Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
TCP/IP	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free					
TimeseriesML (tsml)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Two Dimensional Tile Matrix Set	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
UK Unique Property Reference Number	Live	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Paid for		Geoplace		This is a nationally standardised UPRN created and owned by Geoplace and supplied through Ordnance Survey	
Uniclass	Live	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	The asset itself	All of the above	Free	Classification system	NBS	https://www.thenbs.com/our-tools/uniclass-2015#classificationtables		
UPRN (AddressBase)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Paid for		Geoplace			
Very simple Control Protocol (VSCP)	Live	N	N	Y	Y	Y	N	N	N	N	N	N	N	IoT	Resi & Comm	Free	Protocol	VSCP.org	https://www.vscp.org/		
WaterML	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Weave	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Web-based Analysis and Visualisation	OIC	http://oicweave.org/		
Web Coverage Processing Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Coverage Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Feature Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Map Context	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Map Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Map Tile Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Processing Service	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
Web Service Common	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
WELL Standard (WELL v1)	Live	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	Occupier	Commercial	Paid for	Certification	International Well Building Institute	https://standard.wellcertified.com/well	The WELL Building Standard v1 is a standard for buildings, interior spaces and communities seeking to implement, validate and measure features that support and advance human health and wellness.	
WELL Standard (WELL v2)	Planned	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	Occupier	Resi & Comm	Paid for	Certification	International Well Building Institute	https://standard.wellcertified.com/well	WELL v2 consolidates previous iterations and pilots into one WELL for all project types. The system is designed to grow in specificity and specialty over time, adapting to accommodate diverse space types and geographies and to respond to new evidence and ever-evolving public health concerns	
WFS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.gisstandards.eu/gis-standards/	Web feature Service	
WiredScore	Live	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Technology / connectivity / Exchange	Resi & Comm	Paid for	Score	Wiredscore	https://wiredscore.com/uk/		
WKT CRS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.opengeospatial.org/standards/cat		
WMS (web map services)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.ogc.org/standards/wms		
WMTS (Web Map Tile Service)	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free		OGC	https://www.ogc.org/standards/wmts		
WPS	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Asset location	All of the above	Free	input and output rules for geosp	OGC	https://www.ogc.org/standards/wps		
X10	Live	N	N	Y	Y	Y	N	Y	N	Y	N	N	N	IoT	Resi & Comm	Free	Protocol		http://xbase.x10.com/wiki/Main_Page		
XBRL	Live	N	N	N	N	N	Y	N	N	N	N	N	Y	Technology / connectivity / Exchange	All of the above	Free	XML	XBRL	http://www.xbrl.org.uk/		
XMPP	Live	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Technology / connectivity / Exchange	All of the above	Free	Messaging standard	XMPP	https://xmpp.org/		
XMPP-IoT	Live	N	N	Y	Y	Y	N	Y	N	Y	N	N	N	IoT	Resi & Comm	Free	Protocol	XMPP-IoT	https://xmpp.org/		
Z-wave	Live	N	N	Y	Y	Y	N	Y	N	Y	N	N	N	IoT	Resi & Comm	Free		Z wave Alliance	https://z-wavealliance.org/		
Zigbee	Live	N	N	Y	Y	Y	N	Y	N	Y	N	N	N	IoT	Resi & Comm	Free		Zigbee alliance	https://zigbeealliance.org/		

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