

KEY TERMS

GENERAL TERMS	
Building Information Modeling (BIM)	A process for creating and managing information on a construction project across the project lifecycle ¹
Business Intelligence	Combines business analytics, data mining, data visualization, data tools and infrastructure, and best practices to help organizations make more data-driven decisions. ²
Data	(1) Factual information (such as measurements or statistics) used as a basis for reasoning, discussion, or calculation (2) Facts and statistics collected together for reference or analysis (3) Data is raw statistics and facts collected for either analysis or reference. Because data lacks context, a piece of data isn't impactful ³
Data Alignment	The process of harmonization of the underlying concepts and definitions of Variables or units in order to produce values for measurement of Variables, which can be related to the maximum extent possible. ⁴
Data Attribute	A quality or feature regarded as a characteristic or inherent part of someone or something [...] Attributes define and describe the item. They are core to the item itself and do not generally change. ⁵
	A database is an organized collection of structured information, or data, typically stored electronically in a computer system. ⁶

Common Database Types:

Database	<p>Data Lake A data lake is a centralized repository that allows you to store all your structured and unstructured data at any scale. You can store your data as-is, without having to first structure the data, and run different types of analytics—from dashboards and visualizations to big data processing, real-time analytics, and machine learning to guide better decisions.⁷</p> <p>Data Warehouse A data warehouse is a centralized repository that stores large volumes of data from multiple sources in order to more efficiently organize, analyze, and report on it. Unlike a data lake, it covers multiple subjects and is already filtered, cleaned, and defined for a specific use.⁸</p>
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¹ Source: <https://www.thenbs.com/knowledge/top-10-bim-terms-explained>

² Source: Tableau

³ (1) Merriam Webster, (2) Oxford Languages, (3) HubSpot

⁴ Source: https://ec.europa.eu/eurostat/cros/content/data-alignment_en

⁵ Source: Rich Peters

⁶ Source: Oracle

⁷ Source: <https://aws.amazon.com/big-data/datalakes-and-analytics/what-is-a-data-lake/>

⁸ Source: HubSpot

	Data Fabric	Data fabric is an architecture that facilitates the end-to-end integration of various data pipelines and cloud environments using intelligent and automated systems. ⁹
	Data Fabric	A single environment consisting of a unified architecture, and services or technologies running on that architecture, that helps organizations manage their data ¹⁰
	Data Mining	The practice of analyzing large databases to generate new information.
	Data Normalization	Database normalization is the process of organizing the attributes of the database to reduce or eliminate data redundancy (having the same data but at different places). ¹¹
	Data Standardization	Data standardization is the critical process of bringing data into a common format that allows for collaborative research, large-scale analytics, and sharing of sophisticated tools and methodologies. ¹²
	Database Table	A table in a relational database is much like a table on paper: It consists of rows and columns. The number and order of the columns is fixed, and each column has a name. The number of rows is variable -- it reflects how much data is stored at a given moment. ¹³
	Hierarchies	A system or organization in which people or groups are ranked one above the other according to status or authority [...] Hierarchies establish relationships between items or groups of items. They are how we organize items to bring structure for helping us more easily understand how the business operates. Hierarchies are separate from the items themselves. Items are assigned to a level or node in the hierarchy. ¹⁴
	Information	The most distinguishable difference between data and information is that information offers context, thanks to interpreting, processing, and organizing. The transformation from raw data to information is impactful because it can influence decisions. ¹⁵
	Interoperability	The ability to access and process data from multiple sources without losing meaning and then integrate that data for mapping, visualization, and other forms of representation and analysis ¹⁶
	Key Performance Indicator (KPI)	Refers to a set of quantifiable measurements used to gauge a company's overall long-term performance. KPIs measure a company's success versus a set of targets, objectives, or industry peers. ¹⁷
	Master Data	Master data is the unique information that describes a business's core entities. It is data on the business entities that systems reference to complete transactions. ¹⁸

⁹ Source: IBM

¹⁰ Source: <https://www.talend.com/resources/what-is-data-fabric/>

¹¹ Geeks for Geeks

¹² Source: <https://www.ohdsi.org/data-standardization/>

¹³ Source: PostgreSQL

¹⁴ Source: Rich Peters

¹⁵ Source: Hubspot

¹⁶ Source: <https://www.data4sdgs.org/initiatives/data-interoperability-collaborative>

¹⁷ Source: Investopedia

¹⁸ Source: HubSpot

ULI DATA FORUM

Metadata	Metadata are deliberate, structured data about data. Metadata are used to facilitate and support resource discovery, identification, the organization of resources, and the exchangeability of the data itself as well as the exchangeability of the resource or resources it represents. Metadata also capture and provide important contextual details, as not all resources are self-describing. ¹⁹
Open Source	Denoting software for which the original source code is made freely available and may be redistributed and modified.
Portability	The possibility of running and/or using the same data on different computer systems ²⁰
Software as a Service (SaaS)	A method of software delivery and licensing in which software is accessed online via a subscription, rather than bought and installed on individual computers
Transactional Data	Data generated by business applications while supporting daily operations ²¹
STANDARDS	
American National Standards Institute (ANSI)	An organization that oversees standards and conformity assessment activities in the United States ²²
ASTM	ASTM standards are developed by committees of relevant industry professionals who meet regularly in an open and transparent process to deliver standards, test methods, specifications, guides, and practices.
Commercial Real Estate Data Alliance (CREDA)	The Commercial Real Estate Data Alliance (CREDA) is a consortium of academics and industry professionals dedicated to achieving data parity with other major asset classes. ²³
GIS Data File Format	A standard (such as KML, Shapefile, GPX, and TIFF) for storing geographical information in a computer file.
GRESB	An independent organization providing validated ESG performance data and peer benchmarks for investors and managers to improve business intelligence, industry engagement and decision-making. The GRESB Real Estate Assessment is the investor-driven global ESG benchmark and reporting framework for listed property companies, private property funds, developers and investors that invest directly in real estate. ²⁴
Industry Foundation Classes (IFC)	A standardized, digital description of the built asset industry. The IFC is an open, international standard (ISO 16739-1:2018) and promotes vendor-neutral, or agnostic, and usable capabilities across a wide range of hardware devices, software platforms, and interfaces for many different use cases. ²⁵
ISO 14064 EPG GHG	Specifies principles and requirements at the organization level for the quantification and reporting of greenhouse gas (GHG) emissions and removals.

¹⁹ UC Santa Cruz University Library

²⁰ Source: <https://stats.oecd.org/glossary/detail.asp?ID=5584>

²¹ HubSpot

²² Source: <https://www.ansi.org/>

²³ Source: <https://uncipc.org/index.php/initiativecat/real-estate/#:~:text=The%20Commercial%20Real%20Estate%20Data,with%20other%20major%20asset%20classes.>

²⁴ Source: <https://aws.amazon.com/big-data/datalakes-and-analytics/what-is-a-data-lake/>

²⁵ Source: <https://www.buildingsmart.org/standards/bsi-standards/industry-foundation-classes/>

ULI DATA FORUM

It includes requirements for the design, development, management, reporting and verification of an organization's GHG inventory.

**United Nations
Principles for
Responsible
Investment (UNPRI)**

The PRI is the world's leading proponent of responsible investment. It works: to understand the investment implications of environmental, social and governance (ESG) factors; to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions.

Tools

**Department of
Energy Embodied
Carbon in
Construction
Calculator (DOE EC3)**

A free database of construction Environmental Product Declarations and matching building impact calculator for use in design and material procurement by Building Transparency²⁶

iTwin

A platform that provides the foundation for building SaaS solutions to design, build, and operate infrastructure assets. The iTwin platform can assist with data integration, visualization, change tracking, security, and other complex challenges.²⁷

²⁶ Source: <http://www.buildingtransparency.org/>

²⁷ Source: <https://www.bentley.com/software/itwin-platform/>