

Data centre standards map, 2017

This standards map was developed by Emma Fryer from techUK and Mike Gilmore from eReady Building. It is not intended to be exhaustive or comprehensive and is currently being updated to reflect changes since 2017, so please look out for a new version from September 2019.



Data Centre Standards are mapped as follows:

- The Y-axis reflects decreasing specificity of the standard: at the top are generic standards that are applicable across multiple sectors. At the bottom are standards specific to data centres. In the middle are ICT specific standards.
- The X-axis reflects the life cycle stage to which the standard refers, from design and construction, operation (use) to disposal.
- The second map looks at broader initiatives within the data centre space. Axes still reflect specificity and life cycle stage.

The map demonstrates an astonishingly advanced degree of standards development for such a young industry, and suggests that the sector is strongly self-policing. In an industry that competes on resilience, this is perhaps not surprising.

The map also shows us that the landscape is complex. In some areas there are multiple overlapping standards, especially design. In other areas there are very few standards – such as disposal. In terms of specificity there are plenty of data centre standards but once you get inside the data centre, the picture is again more mixed, with a clear focus on M&E and hardware but nothing, as far as we can see, relating to software.

STANDARDS PUBLISHED AND IN DEVELOPMENT

GENERAL	Quality management systems		ISO 9001	
	Energy management systems		ISO 50001	
	Environmental management systems		ISO 14001	
	Life cycle assessment (LCA) of GHG		BS PAS 2050	
	Environmental management LCA		ISO 14040 ISO 14044	
	LCA of ICT systems		ETSI 103 199 ITU-T L.1410	
			Information security ISO 27001	
DATA CENTRE	RESOURCE MANAGEMENT	KPIs	ETSI EN 305 200-3-1: GobaI KPI _{DCEM}	
			ETSI EN 305 200-2-1: GobaI KPI _{EM}	
			ISO/IEC 30134-6 = EN 50600-4-6: ERF	
			ISO/IEC 30134-3 = EN 50600-4-3: REF	
			ISO/IEC 30134-2 = EN 50600-4-2: PUE	
		Sustainability: Recommended practices		CLC/TR 50600-99-2
			CLC/TR 50600-99-1 ISO/IEC TR 30133 ITU-T L.1300	
	EQUIPMENT	Storage KPI	ETSI EN ????	
		Servers KPIs	ETSI EN 303 470	
			ISO/IEC 21836:SEEM	ISO/IEC 30134-4 = EN 50600-4-4: ITEE _{SV}
		Software		No standards activity for “data centre”-specific software (function or efficiency)
INFRASTRUCTURE	EN 50600-1 = ISO/IEC TS 22237-1	Availability Classification		
		Telecomms/Network	EN 50600-2-4 = ISO/IEC TS 22237-5	
		Environmental control	EN 50600-2-3 = ISO/IEC TS 22237-4	
	Risk analysis and availability	Power	EN 50600-2-2 = ISO/IEC TS 22237-3	
		Physical security	EN 50600-2-5 = ISO/IEC TS 22237-6	
		Construction	EN 50600-2-1 = ISO/IEC TS 22237-2	
DESIGN		OPERATION		End-of-Life
		Operational and management information		EN 50600-3-1 = ISO/IEC TS 22237-7

INITIATIVES AND OTHER APPROACHES

GENERAL	EMAS		EU Eco-Management and Audit Scheme		
	Energy and Buildings	Building Energy Modeling Professional Certification (ASHRAE)			
		Building Reasearch Establishment Environmenatl Assessment Method (BREEAM)			
DATA CENTRE	RESOURCE MANAGEMENT				
	Green Public Procurement		EU Green Public Procurement (GPP) criteria for Data Centres		
	Green House Gas		GHG Protocol ICT Sector Guidance (WRI, WBCSD, CT etc)		
	Energy efficiency: Best practices		EC DG JRC Code of Conduct (standardised in CLC/TR 50600-99-1)		
	ICT EQUIPMENT				
	Storage	EC LOT9			
	Servers	EC LOT9			
		UK Government			
	Software	All4Green etc.			
	INFRASTRUCTURE				
UPTIME INSTITUTE TIERING	Availability Classification		BICSI 002	ANSI/TIA-942-B	
	Telecomms/Network			AHSRAE TC9.9	
	Environmental control				
	Power				
Availability	Physical security				
	Construction				