

ISO/IEC TS 5147:2023-07 (E)

Information technology - Computer graphics, image processing and environmental data representation - Guidelines for representation and visualization of smart cities

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms, definitions and abbreviated terms	1
3.1	Terms and definitions	1
3.2	Abbreviated terms	3
4	Representation and visualization standards	4
4.1	Standards overview	4
4.2	Representation standards	4
4.3	Visualization standards	5
4.4	Mixed and augmented reality standards	6
5	Concepts	7
5.1	Overview	7
5.2	Modelling, representing and visualizing smart cities	7
5.3	Smart city object	8
5.4	Guidance for representation of smart city objects	10
5.5	Guidance for visualization of smart city objects	12
5.6	Guidance for representation and visualization of smart cities	12
6	Representation and visualization methods for smart city data categories	13
6.1	Guidelines for representation and visualization	13
6.2	Representation and visualization methods	15
6.2.1	Natural environment	15
6.2.2	Built environment	15
6.2.3	Dynamic entities	16
6.2.4	Networks	16
6.2.5	Weather	16
6.2.6	Sensors	16
6.2.7	Spatiotemporal data	16
6.2.8	Physical properties	17
6.2.9	Semantic properties	17
6.2.10	Analytical data	18
6.2.11	Imagery	19
6.2.12	Video	19
6.2.13	Sound	19
6.2.14	Haptics	19
6.2.15	Multidimensional data	19
6.2.16	Social media	20
6.3	Mapping of data categories to presentation / visualization methods	21
7	Representation and visualization of smart cities using standards	21
8	Use cases	22
Annex A (informative)	Use cases for applying standards to smart cities	23
Bibliography		32