

ISO/IEC TR 16088:2025-08 (E)

Information technology - Computer graphics, image processing and environmental representation - Constructs for visual positioning systems in mixed and augmented reality (MAR)

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	2
4	Concept: Visual positioning system in mixed and augmented reality	2
4.1	VPS and MR	2
4.2	System architecture of VPS	4
4.2.1	Image data base and map construction	4
4.2.2	Localization	6
4.2.3	Scene understanding	7
4.2.4	Overall system architecture	8
5	Standardization opportunities	9
5.1	Data representation and interoperability among major VPS components	9
5.2	Image/Data set for map and image DB	9
5.2.1	General	9
5.2.2	Images	9
5.2.3	GNSS coordinate (from which the image was taken)	9
5.2.4	Inertial data	9
5.2.5	Camera parameters	9
5.3	Image based 2D/3D map	10
5.4	Pre-existing map	10
5.5	Integrated 2D/3D image based and registered map	10
5.6	Features characterization and descriptor	10
5.7	Image/object characterization and descriptor	10
5.8	Semantics (labels)	10
6	Use cases	10
6.1	Indoor MAR guidance/service (navigation/advertisement/games/tourism)	10
6.2	Accurate outdoor MAR services (navigation/advertisement/games/tourism)	11
6.3	MAR based tele-assistance	12