Summary of specs for mediation teleoperation technology based on human capability requirements and based on related works' specs findings for a given a task.[1]

Appendix A

Table A1. Human capabilities vs. human capabilities through mediated technologies.

	Task	Analyzed Criteria	Ref	Resolution	Frame Rate (FR)	Latency	Field of View (FoV)	Frame of Reference (Camera Perspective)	Depth Cue	Display Type	Results
Human capability	Multi-purpose	-	Table 1	>60–200 pixels/ degree	>1800 Hz	<7–15 ms	210° (H) × 135° (V)	Egocentric	Pictorial, motion parallax, binocular cues	-	
Teleoperation	Placement	Accuracy, speed, and performance	[8,60]	-	>15Hz	-	-	-	-	-	-
	Placement and grasping	Accuracy	[106,107]	-	> 25 Hz	-	-	-	-	-	-
	Tracking	Accuracy, perceived control, and stability	[108]	-	> 12 Hz	-	-	-	-	-	-
	3D Tracking	Accuracy and speed	[109]	-	> 33 Hz	-	-	-	-	-	-
Telemanipulation	Telesurgery: cutting, stitching, knotting	Accuracy, precision, and performance	[75]			<300 ms	-	-	-	-	-
Telemanipulation	Laparoscopy surgery	Usability and performance of experienced surgeons	[74]			<105 ms	-	-	-	-	-
Telepresence	Telepresence robot	Performance, usability, workload	[7]			<125 ms	>170° (H), wide or with pan/ tilt	Egocentric	Pictorial, monocular, parallax motion cues	1 × monitor or HMD	Navigation and social interaction
Driving	A 6 wheel all terrain rover of 6.800 kg	Avg. speed and avg. time stopped	[51]	40 pixels/ degree, 5 × 1600 × 1200	>25 Hz	<480 ms	200° (H) × 30° (V)	Egocentric	Pictorial, monocular, and motion parallax cues	5 × high-res LCD monitor, side-by-side, true size	Operator's situational awareness and perception of the vehicle's position and motion
Driving	A car driving on city roads at 30 km	Tracking line, obstacle detection, performance	[77,78]	5 × 640 × 480	>25 Hz	<550–600 ms	240° (H)	Egocentric	Pictorial, monocular, and motion parallax cues	3 × high-res LCD monitor side-by-side, true size, and HMD	–

[1] Luis Almeida, Paulo Menezes, and Jorge Dias. "Interface Transparency Issues in Teleoperation". In: *Applied Sciences* 10.18 (2020). ISSN: 2076-3417. DOI: 10.3390/app10186232. URL: https://www.mdpi.com/2076-3417/10/18/6232.