

Device Category	Key features	Data collected	Cognitive influence / impact	Interactions
Mobile phones	Always-on sensors, biometric auth, app usage, location tracking	Touch patterns, voice, location, screen time, app usage	Personalized nudging, attention shaping, behavioral profiling	Wearables, earbuds, home devices, vehicles, and cloud AI
Smartwatches	Wrist-worn sensors, biometric tracking, notifications	HRV, sleep stages, activity levels, gestures, alert response	Habit reinforcement, micro-interruption shaping, physiological-cognitive linking	Phones, earbuds, wearables, voice assistants, fitness apps
Earbuds / Hearables	Voice input, head motion tracking, biometric sensing	Voice tone, heart rate, ambient sound, head gestures	Emotion inference, auditory attention shaping, cognitive load estimation	Phones, connected glasses, voice assistants, gaming systems
Connected glasses	Eye tracking, AR overlay, ambient cameras, voice command	Gaze direction, context imagery, voice data	Visual attention manipulation, emotion-aware display, real-time decision influence	Phones, earbuds, smart home, and location-aware services
Smart TVs	Content recognition, voice control, camera integration	Viewing habits, emotional reaction, voice/facial data	Targeted content delivery, subconscious preference shaping, priming	Voice assistants, phones, game consoles, ambient sensors
Connected gaming platforms	Haptic feedback, eye/motion tracking, adaptive difficulty, social integration	Decisions, emotions interaction frequency, performance metrics	Reward-loop conditioning, team behavior modeling, stress/engagement manipulation	Headphones, phones, glasses, smart TVs
Game consoles & controllers	Multimodal input, immersive interfaces, biometric feedback	Gameplay habits, reaction speed, preference patterns	Cognitive training, decision bias testing, attention-loop reinforcement	Smart TVs, smart audio, gaming platforms, wearables for haptic/biometric feedback
Home automation systems	Device orchestration, ambient sensing, voice control	Room occupancy, behavioral routines, preferences	Anticipatory adaptation, mood-based environment change	Controlled via hubs, phones, speakers, and sensors
Smart doorbells	Facial recognition, motion detection, remote access	Visitor identity, frequency, time of visits	Social behavior analysis, risk profiling, trust interaction modeling	Phones, smart TVs, surveillance systems, and voice assistants
Surveillance cameras	AI vision, gait/facial recognition, anomaly detection	Facial expressions, movement trends, interaction mapping	Crowd behavior inference, emotional response estimation, predictive safety monitoring	Doorbells, home hubs, smart mirrors, phones
Voice assistants	Natural language interface, contextual memory, emotion detection	Speech tone, command semantics, query patterns	Conversational nudging, language pattern shaping, dependency modeling	Phones, TVs, appliances, wearables
Smart mirrors	Facial emotion detection, body analysis, health feedback	Mood, expressions, health signs	Self-image modulation, behavior reflection reinforcement	Wearables, smart bathroom fixtures, phones, home hubs
Fitness wearables	HR monitoring, sleep & stress analysis, movement sensing	HRV, steps, sleep patterns, oxygenation	Wellness nudges, burnout detection, activity-based mood prediction	Phones, health apps, AR/VR, digital mirrors
Smart appliances	Routine learning, food inventory, predictive interaction	Usage timing, frequency, consumption patterns	Habit reinforcement, subtle health guidance, decision simplification	Hubs, voice assistants
Connected vehicles	Eye tracking, biometric input, driving pattern monitoring	Fatigue, stress, driving style	Adaptive warning systems, emotion-aware navigation, calmness optimization	Phones, wearables, voice assistants, AR glasses
Smart desks & chairs	Posture feedback, productivity tracking, motion sensing	Sitting behavior, usage cycles, micro-break detection	Ergonomic coaching, cognitive fatigue reduction	Smart assistants, AR work environments
AR / VR headsets	Spatial interaction, gaze tracking, haptic immersion	Attention span, engagement rate, stress markers	Immersive cognitive conditioning, perceptual re-framing	Gaming platforms, wearables, smart environments
Smart clothing	Integrated biosensors, posture and motion sensing	Muscle tension, fatigue, thermal changes	Real-time body-cognition feedback, physical-cognitive state linking	Fitness wearables, AR/VR
Smart toilets / bathrooms	Biometric analysis, health signal detection	Metabolic waste markers, hydration, hormonal shifts	Health risk signaling, subconscious health behavior shaping	Smart mirrors, home hubs, fitness apps
Educational devices / Toys	Adaptive response, learning analytics, voice input	Learning progress, engagement levels, choice dynamics	Individualized learning feedback, emotion-driven knowledge retention	Phones, voice assistants
EEG headbands / Neurotech	Brainwave sensing (focus, relaxation, stress)	Alpha/beta/gamma EEG activity, attention metrics	Neurofeedback loops, meditation assistance, state-dependent interface adaptation	AR/VR, digital health dashboards
Digital in-car assistants	Voice-based control, predictive interaction, cognitive state estimation	Driving stress, urgency, voice tone	Adaptive instructions, emotional routing, mental state-aware suggestions	Vehicle systems, phones, voice interfaces
Smart home hubs	Multi-device orchestration, learning algorithms	Behavioral patterns, device usage trends	Habit formation steering, invisible cognitive feedback	Smart devices: lighting, appliances, sensors, voice assistants
Ambient environment sensors	CO²/light/sound/temp monitoring	Environmental triggers, circadian rhythm patterns	Mood stabilization, attention optimization via environmental tuning	Smart home hub, thermostat, lighting, wearables

