

the ERAD technology

The ERAD (Elevated Robotic Assistive Device) technology* is centered about “mobile robotic assistive devices that don’t take up floor space.” While floor-based mobile robots may have great potential for automating processes and assisting people (i.e. the disabled and infirmed or home/industrial security), their need to navigate around objects (people, furniture, stairs, pets..) makes them expensive while still not alleviating the potential for a sense of obtrusiveness on the part of the users. Simply put, there is more “open real estate” available overhead than on the floor for many types of personal assistant robotics.



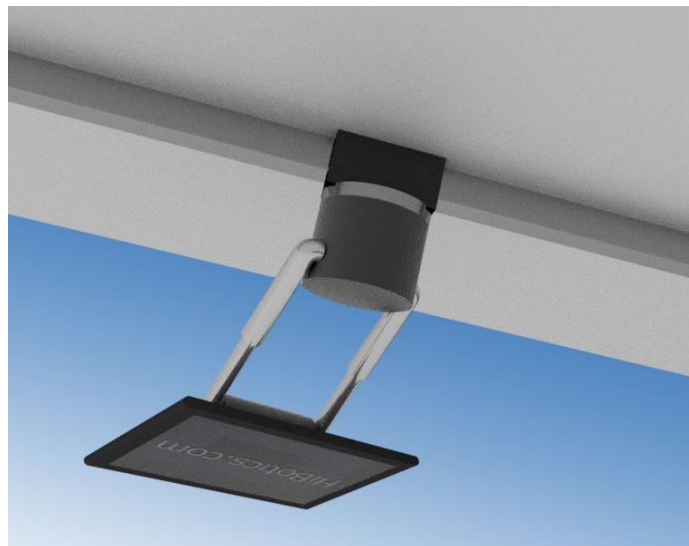
The technology consists of a lightweight track, or rail, system, which is suspended from the ceiling or off of a wall, or a track-support frame, and includes one or more relatively small, robotic, self-propelled cars, or modules, that move along the overhead track(s) in either remote control or autonomous modes. The cars include a pivotally-mounted tablet, running Android or IOS apps, which provides the eyes, ears and brains of the device. Applications running on the tablet control the system and the open architecture allows for users to develop their own software. The car also has the capability to track a person or animal and maintain close proximity to the chosen target. The cars move along a track system which includes a switching mechanism so that it can operate on more than one track and serve a larger area.

- Patent pending, 2016 USPTO



These elevated robots can serve a number of purposes, including:

- as a telepresence device; similar to floor-based devices but with less intrusion,
- as a personal assistant with voice-driven control,
- for monitoring the health and status of an infirmed person or animal; the system can track the target and maintain constant connection as well as detect a person's fall or emergency situation,
- as a security monitor to scan areas for motion, smoke, noxious gases, fire, etc, both indoors or outdoors,
- to provide a moveable platform for lighting and sound,
- as a device for interactive video games, e.g. supporting a virtual laser tag game,
- as a warning system for the hearing disabled; the car can maintain a close position to the user and notify them with flashing lights or car movement when someone is at the door or an alarm goes off, and
- as an ever-present or accessible video or computer monitor.



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The system includes track, switcher, power system, car with 10" smart tablet, stereo speakers, microphone array, software, tracking system, and voice control.

A short video of our prototypes is at: <https://youtu.be/G47sOx8ggR4>

Contact info:

Bruce Westermo
bwestermo@gmail.com
619-417-9635

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