WTAWARD2014

Categorie Premio	Accessibilità	Sostenibilità	Qualità della vita

Product Name	i4D Wheelchair
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Categorie Premio

Accessibilità Sostenibilità Qualità della vita

Description of innovation social values
- product category
- formal and functional features
- problems solved by innovation
- user
- field of application

True accessibility means creating a design that is committed to providing users with equality rather than accommodation. Our world is filled with infrastructure modifications like ramps, lifts, curb cuts and elevators that solve the most basic issue of paraplegics being confined to wheeled transport. But these architectural features fall short by doing two things: They put active paraplegics at the mercy of the locations they visit and they physically separate them from ambulatory individuals.

The i4D wheelchair seeks to eliminate these and other barriers so that paraplegics are empowered to interact with other people and their environment in a way that is sensitive to natural heuristics.

1. The i4D can bring it's user to a standing position to reach high places as well as move and interact at eye level with other people.
2. The i4D can climb stairs or other segmented grades, eliminating the requirement for ramps, lifts or other devices to be present.
3. The i4D can switch between it's main drive and a smaller omnidirectional drive for indoor home use. This makes maneuvering around tight spaces and furniture easy as well as preventing mud, rain, or other outdoor grime from being tracked inside by the main wheels.

Description of technical features
- operations
- technology

- Self- balancing servo drive derived from DEKA / Segway technology
- Optional GPS assisted navigation / pedestrian avoidance for users living with decreased mental abilities.
- Simple bedside docking pad for overnight battery charge and data sync.
- real- time biometric data logging that is transferred to the docking station and delivered to healthcare providers via home network.
- Wireless armband communicates between the chair and the user to detect falls or to provide remote control should the user and the chair become separated.

Dimensions

26 in x 30 in x 48 in (sitting orientation)

Materials

aluminum, soy based plastics and 3D printed polyamides

Certifications

n/a

Benefits for environment

- Decreased costs / materials associated with widespread retrofit and installation of ramps, lifts, elevators or other assisting infrastructure devices.
- Simplified architectural design considerations.
- all materials in design are easily recyclable

Benefits for human being

- paraplegic users are empowered to be more self reliant and able to safely reach areas that would otherwise be unavailable.
- provides the confidence to encourage an active and social lifestyle.
- ability to move and interact at standing height restores a sense of dignity.