



CSIR-Central Mechanical Engineering Research Institute

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Hospital Care Assistive Robotic Device (HCARD):

The CSIR-CMERI developed Health Care Assistive Robotic Device is an essential device in the fight against highly contagious diseases. The present device relates to a nursing care system that navigates the existing facility without intervention and within the programmed constraints to deliver and transport materials and be able to provide two-way communication between patient and clinicians.

The HCARD is powered by two nos. of lead acid battery with the capacity 12V, 7Ah, having a continuous run time of around 5 Hrs. after full charge. It has remotely controlled drawers to transport medicine, food, water, documents etc. Drawers are fitted with UV light to reduce hospital-acquired infections. The system has the path following capability to allow it to move in a predetermined path. The system also has obstacle detection and collision safety modules. The system is designed to operate in manual (using Joystick) and/or in automatic modes.

The system when deployed will work on demand, tirelessly and precisely. The deployment requires minimum addition/ alteration of the existing facilities. The system is efficient as compared to other existing models available in the market and has the technical support of the CSIR-CMERI.



Salient Features:

- Autonomous mode of locomotion through path following
 - Manual mode of Locomotion with joystick
 - Remote activation of drawers
 - Bi-directional voice and video communication
- Collision avoidance circuitry with highest safety protection

Technical specification:

● Dimension	: 1120mm(L)x700mm(W)x1115mm(H)
● Weight	: Approximately 80 Kg with Battery
● Operation Duration	: Approximately 4 hours
● Charging Time	: Approximately 10 hours
● Load capacity	: Max.20 kg
● Drive	: Steer drive
● Standard Sensors	: Path Following Sensors, Obstacle Sensors
● Delivery Objects	: Medicine, Lab Samples, Documentation etc.
● Power Supply	: Lead-Acid Battery, 12V, 7Ah; LiPo Battery
● Navigation	: Manual and Autonomous (Line following)
● Communication	: Audio-Visual
● Maximum Speed	: 0.5M/s
● Turning Radius	: 910 mm(Approx.)
● Power Consumption	: 336 Watt@ 24V

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