



श्री चित्रा तिरुनाल आयुर्विज्ञान एवं प्राध्यागका संस्थान, जवाचाकत्तकाय प्राध्यागका स्कध
पूजप्पुरा, त्रिवेंद्रम- 695012, केरल, भारत
(एक राष्ट्रीय महत्व का संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY
BIO MEDICAL TECHNOLOGY WING
POOJAPPURA, TRIVANDRUM – 695 012, KERALA, INDIA
(An Institution of National Importance, Dept of Science and Technology, Govt. of India)
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BMT-Purchase & Stores/TRC/SCTIMST/2023-24

Dated: 06/02/2024

TENDER NOTICE

Sealed quotations are invited from interested firm for the **Development of a Mobile Hoist with Hoist Assisted Motorized Wheel Chair.**

Details of Work: This project focuses on the development of an innovative, wheel chair based patient hoist, which can facilitate the lifting of the patient from the bed and placing directly on to the wheel chair. The electric motorized wheel chair is having an electric stabilizer legs for stabilizing the wheelchair while transferring the patient. The patient hoist attachments can then be removed for easy movement of the wheelchair. The patient hoist is having lifting actuation and rotating actuation using hydraulic or electric motor system connected to the hoist. Wheel chair controlling can be done by both Patient and his Assistant on the wheelchair. The remote controlled patient lifting operation can be done by the Assistant.

Objective:

- Designing and fabrication of a wheelchair with electrically driven stabilizer legs.
- Designing and fabrication of a patient hoist, which can transfer patient from the bed to the wheelchair.
- Integration of both wheelchair and patient hoist attachment.

Scope of Work:

- **Consultancy for Machinable Drawings:** Consultancy services to convert the conceptual design into machinable drawings, suitable for fabrication.
- **Consultancy for Mechatronic System Design:** Consultancy services to design optimized electric electronic mechanical and hydraulic modules along with programming for the mechatronic system.
- **Design to Prototype Development:** Transforming the conceptual design into a proof-of-concept functional prototype.
- **Fabrication of Proof-of-Concept:** Constructing a working model of the device to demonstrate its feasibility and functionality.
 - The wheel chair need to be demonstrated on an 80kg patient / volunteer.
 - The system should be fully controlled by an Assistant and wheel chair movement should be controlled by Patient and his Assistant.
- **Pre-Clinical Testing:** Testing the prototype for performance, repeatability, and reliability on a patient / volunteer.
- **Required features:**
 - Wheel chair should be of Low center of gravity and safe for driving
 - Rear wheel should be driven by two motors
 - Driving range 10-12 km
 - Maximum speed 6 km/h

- Gross weight 80 kg
- Seat width (L) 45 x (W) 43 cm
- Loading capacity 80 kg
- Motor 350 W x 2 pcs
- Battery 24V 50 Ah Lithium Battery
- Controller can be exchanged from right side to left side for both hands use
- Joystick Both for patient on the arm rest and another industry grade controller for actuation by Assistant
- Electric Stabilizer legs for wheel chair are required for stabilizing the wheelchair during transferring of patient
- Patient harness and slings with high strength, durability, and resistance to moisture is required for transferring the patient
- Patient need to be lifted from the bed, rotated for keeping aligned to chairing position and then slowly lifted down to the wheel chair.
- Movement of the wheelchair need to be controlled by controller for patient and by the Assistant of the patient
- The lifting and placing of the patient and stabilization of the wheel chair using stabilizer legs need to be controlled by the Assistant of the patient through remote controller.

Interested firms may submit the quotation in sealed cover, addressed to the Sr. Purchase and Stores Officer, Biomedical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Poojappura, Thiruvananthapuram-695 012 on or before 21/02/2024 -----, 4.00 PM.

In case of any further clarifications with regard to submission of tenders please be free to contact Purchase and Stores Division, BMT Wing well in advance before closing date of tender. (Ph: 0471- 2520228/2520438/328).

For technical enquiries please contact Ph: 9495983679, email: arunanirudhan@sctimst.ac.in

Last date of receipt of tender either through post/by hand or email- bmtstp@sctimst.ac.in, bmtoss@sctimst.ac.in, bmtpurind3@sctimst.ac.in - 21/02/2024, 4.00 PM.


DIRECTOR
6/2/24