

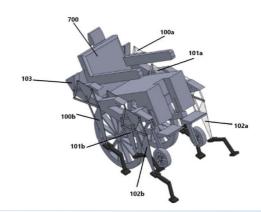


विज्ञान एवं प्रौद्योगिकी विभाग DEPARTMENT OF **SCIENCE & TECHNOLOGY** 



#### GRANTED

# (IN460730) Multi legged stair navigating device



## NEED

Navigating stairs is a challenge for people with mobility impairments, limiting access to multi-story buildings. Existing solutions, like lifts or ramps, can be expensive or inefficient. A versatile, stair-climbing device is needed.

## **TECHNOLOGY OVERVIEW**

This multi-legged stair-navigating device helps users ascend and descend stairs by employing a system of three pairs of legs with individual motors and sensors. It adjusts to different stair heights, providing stability while moving. The device is efficient for both wheelchair users and individuals with mobility issues.

#### **TECHNOLOGY KEY FEATURES**

A system of six motors drives a three-pair leg setup, with sensors for step detection and distance sensing. It adjusts dynamically to stair height, ensuring stability. Wheels for flat surfaces, and compatibility with wheelchairs, make it versatile.

#### **MARKET ANALYSIS**

The global assistive technology market is expected to grow at a CAGR of 7.2%, reaching \$29.4B by 2033 (source: Grand View Research). The increasing aging population and demand for accessible solutions are major market drivers.

#### **Target Industries**

 Healthcare providers offering mobility aids,
Manufacturers of mobility and assistive devices, 3) Architects and builders of accessible infrastructure.

# AT A GLANCE

 SDG 3 (Good Health and Well-being), SDG 10 (Reduced Inequality), SDG 11 (Sustainable Cities and Communities)

#### <u>Read more here</u>

Technology is available for licensing/ co-development. Reach out to Prof. Deepak Chitkara, Coordinator, BITS Technology Enabling Centre, BITS Pilani Contact Details: tec.bits@pilani.bits-pilani.ac.in, 91 1596-255913

