

Rehabilitation centre at IIT-M develops India's most customisable, electric standing wheelchair

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'NeoStand' enables wheelchair users to transition from sitting position to standing



The Indian Institute of Technology Madras (IIT-M) has developed India's most customisable Electric Standing Wheelchair, which has been developed indigenously for the benefit of wheelchair users.

NeoStand is a compact standing wheelchair with easy-to-use navigation for its motorised standing mechanism. At the touch of a button, wheelchair users can effortlessly transition from sitting to standing, opening a world of possibilities, be it engaging in eye-level conversations, reaching for a book, or simply enjoying a cup of coffee standing by a counter.

The project development was led by Prof. Sujatha Srinivasan, Head, TTK Center for Rehabilitation Research and Device Development (R2D2), IIT-M, who also led the development of 'Arise,' India's first manual standing wheelchair, and NeoBolt, the country's first motorised add-on for wheelchairs. This device has been commercialised and is being taken to the market through NeoMotion, an IIT-M incubated startup.

For the majority of wheelchair users across the globe, the ability to stand is far-fetched. Standing is essential for better blood circulation, and digestion, preventing health issues like pressure sores and crucial for daily activities. Currently, users are often dependent on external help and some need to use orthoses. For persons with severe disabilities who have compromised upper body strength, this is a significant challenge, and a manual standing wheelchair is inadequate.

The team at IIT-M set out to tackle this challenge faced by wheelchair users, the necessity and difficulty of standing. The team was committed to providing users with yet another device aimed at enhancing their independence and health.