

Name of the Technology/Product: “Postural Stability Assessment System”

Laboratory Name	CSIR-Central Scientific Instruments Organisation, Chandigarh
Brief Profile of Technology/Product	Postural stability is achieved by maintaining an upright body alignment against gravitational force and preserving the equilibrium of the centre of mass (CoM) in an individual's base of support. Successful postural control requires the contribution from a complex sensory system comprising visual, somatosensory, and vestibular modalities as well as motor control systems. Ground reaction forces is amongst the prominent parameters used for Gait assessment. It gives an approximation of the projection of body's centre of mass on the ground. This manual describes wearable sensor module development for estimation of centre of foot pressure estimation. Gait events like balance stability and lateral fall is detected. Compact module packaging makes it comfortable in wearing and does not interfere in natural movements. Real time ground reaction forces from all the sensors and centre of foot pressure has also determined.
Returns/Benefits	The developed foot pressure sensor is used for assessing balance stability of individuals <ol style="list-style-type: none"> 1. Postural Assessment System is safe to use as a training tool for sit-to-stand, stand-to-sit, joint movements for stance and gait analysis. 2. It will bring significant improvement in postural sway. 3. The developed system will bring significantly better improvement in spasticity scores of ankle dorsiflexion and planar flexion.
Validation Level	Prototype developed and installed at two hospital Pilot Scale
IPR Status [also indicating the status of the patent (if any) in 2015]	No
End product price (if not available, estimated price)	Upto 0.50 Lakh/-
Technology/Product Collaborator	None, in-house development
Relevance of Technology in present times	Stiffness, swiftness and damping are the gait variable parameters that are used to quantify and control the postural stability. The system help in assessment of postural stability of elderly and physically disabled.
Similar technology/product developed	Available in international market. M/s Tetrax and Biodex are two leading companies.

Picture of the technology/product (if any, with good resolution)

