



SENLy

SENLy is a mechatronic platform aimed at perturbing steady conditions, such as walking or keeping the upright stance, by slipping-like perturbations. It mainly consists of a double split-belts treadmill which belts can be independently controlled along the fore-aft and medio-lateral directions, thus emulating multi-directional perturbations. SENLy is also provided with force cells allowing the users to evaluate the load distribution between the legs. Perturbations can be delivered either synchronously, that is, simultaneously with the Start command run by the user, or asynchronously, that is, when a particular load distribution on both platforms is detected.



Key Features

- Overhead truck for safety purposes
- Perturbation delivery: asynchronous and synchronous (i.e., triggering an event of the gait cycle)
- Walkway provided with force cells
- Max acceleration in AP e ML directions: 8 m/s² and 2.4 m/s²
- Size 2.5 x 2.5 x 3 m
- Split belts treadmill
- Max walking speed 1.8 m/s
- Equipped with a 6-camera Vicon System and a 16-channels wireless electromyographic system

Possible Applications

- Testing the effectiveness of wearable mechanisms/robots to counteract the lack of balance
- Testing wearable-sensors-network and algorithms to recognize/detect motor tasks and related features
- Biomechanics and motor control during steady/perturbed locomotion-related motor tasks

Access information

Corresponding infrastructure	School of Advanced Studies Sant'Anna The BioRobotics Institute
Location	Viale Rinaldo Piaggio, 34 56025 Pontedera PI, Italy
Unit of access	Working day



Technical specifications

No technical specifications specified.
