

Seated Exercise Technology to walk in balance

Motivation

Mobility is fundamentally important to older adults being able to maintain their physical and psychological health.



Falls are common in older people



Poor adherence to exercising independently



Serious implications



Professionals are expensive

The SET Solution offers timely and effective intervention to regain walking ability comfortably, safely at a low cost.

I want to be able to walk safe and independent.



I want patients to exercise in a safe way when I'm not there.

Project partners

PHILIPS

UNIKLINIK RWTH AACHEN Lehrstuhl für Altersmedizin

TECHNION Israel Institute of Technology

Balanseat

medIT | **RWTH AACHEN UNIVERSITY**



Clinical impact

Old adults walk with a reduced axial rotation, which:

- Negatively affects gait
- Disturbs balance control
- Increases fall risk



"Thoracopelvic assisted movement training such as SET represents a great potential to improve balance and gait ability of elderly people with high fall-risk."



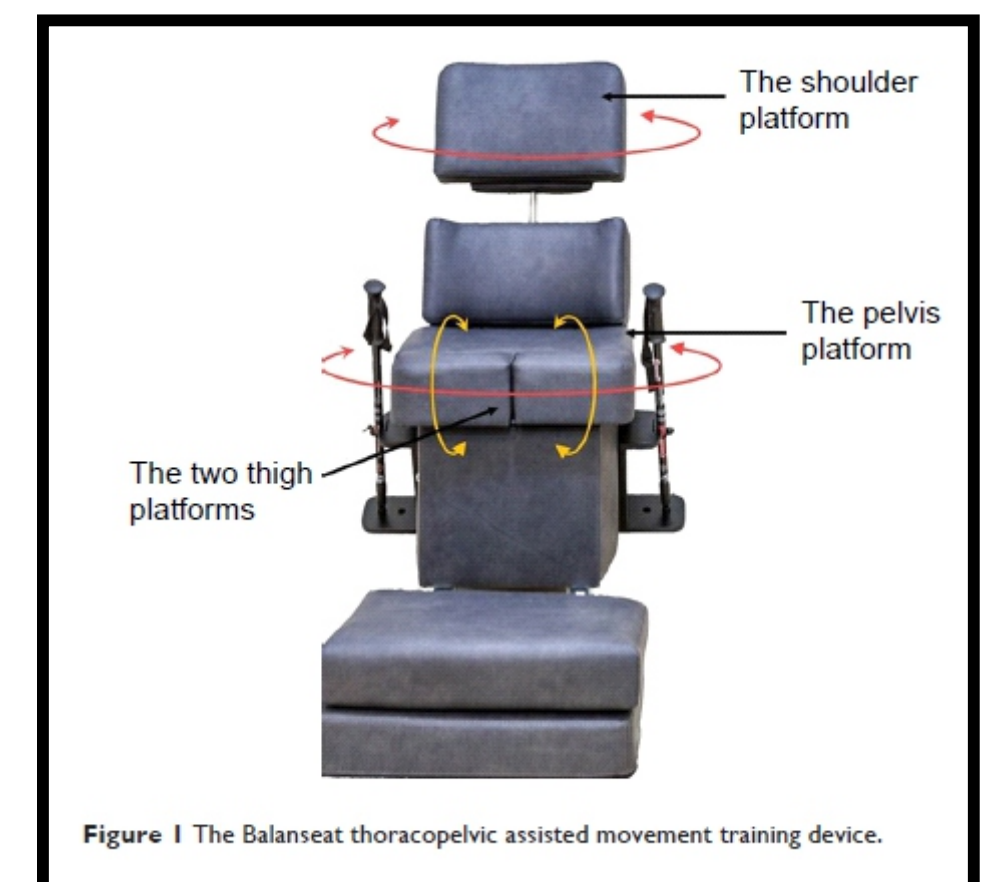
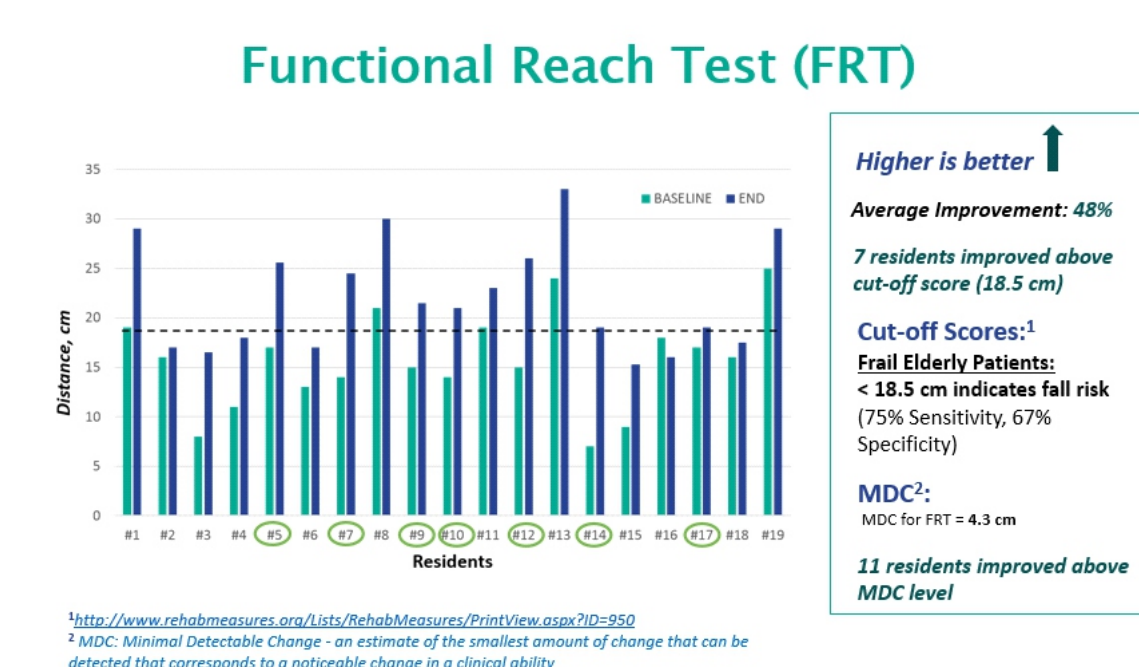
Univ.-Prof. Dr. med. Cornelius Bollheimer - Chair and Director Internal Medicine and Geriatrics at Franziskus-Hospital – Uniklinik/RWTH Aachen

Technologies

Seated Exercise Technology (SET) combines intervention with monitoring, is designed for the frail population, enables independent use and trains the whole body. The SET Solution offers timely and effective intervention to regain walking ability comfortably, safely at a low cost.

BalanSeat

BalanSeat applies trunk, shoulder and pelvis rotation together with thighs extension, on a seated user.



Technology used for assessment of walking ability:

Philips GoSafe

- Sensor technology for Automatic Mobility Assessments in Daily Life
- Implement continuous assessments on commercial device



MedIT RWTH Body Sensor Network

- Integrated Posture and Activity Network by MedIT Aachen: wireless network for biomechanical and physiological measurements
- Transfer to the home environment for multiple sensor location

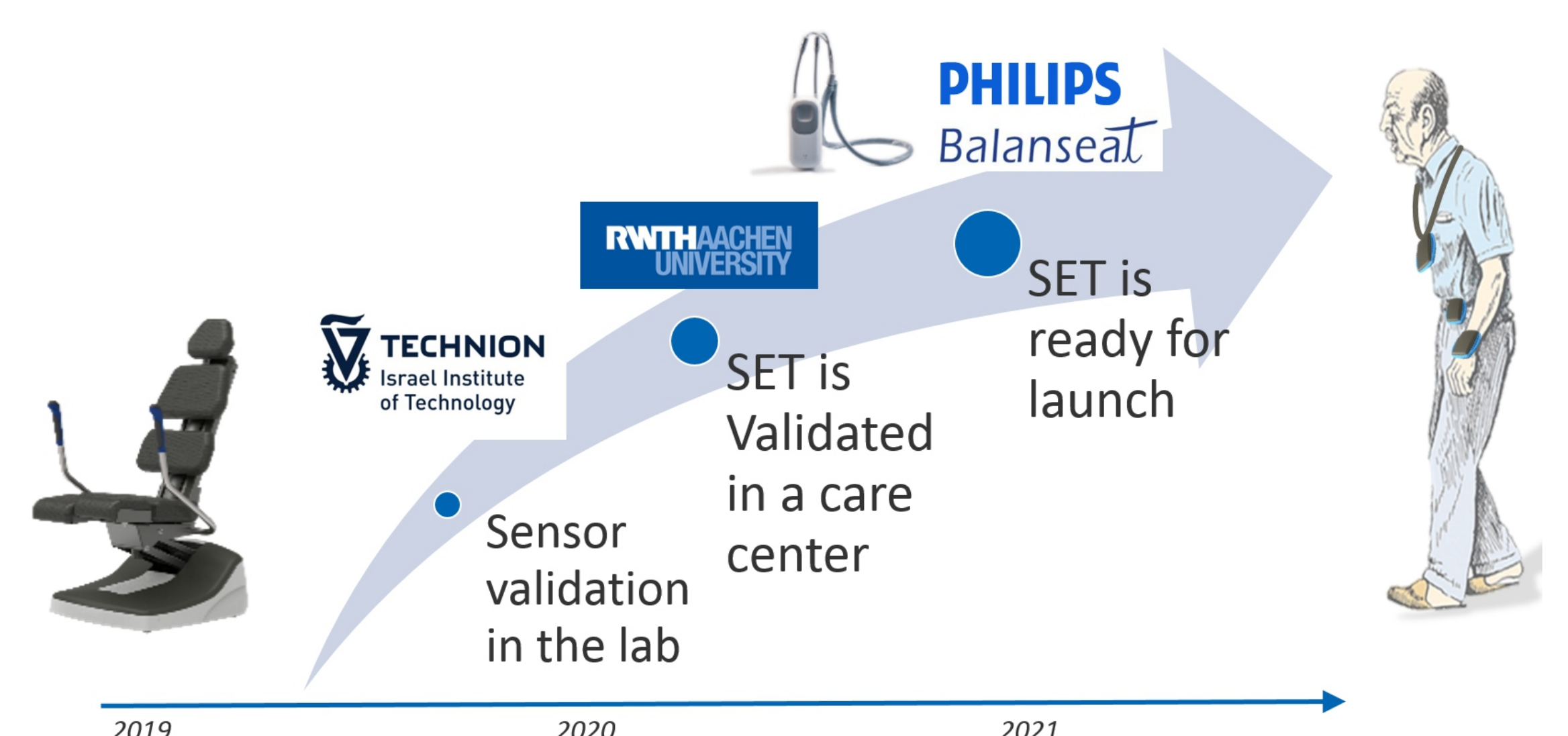


Motion lab Technion

- Gold Standard 3D camera based assessment in the lab environment



To the goal



Interventions to improve walking ability can lead to increased quality of life

