

[Menu](#)

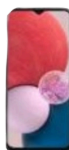
The TOLIFE sensor kit, used in Clinical Study A (an observational prospective cohort study), gathers data on symptoms, performance, electrophysiologic signals, and environmental variables to estimate the health status of COPD patients. The kit includes a WiFi router, smartwatch, smartphone, smart shoes, smart mattress cover with bedroom Box Case (detecting light, temperature, humidity, and noise), and a mini-spirometer. Accessories include charger cables, and both paper and digital manuals. Data from the smart sensors are uploaded to the TOLIFE database via the WiFi connection.



Wifi
Router



Smartwatch



Smartphone



Smart
Shoes



Mini
Spirometer

[Menu](#)

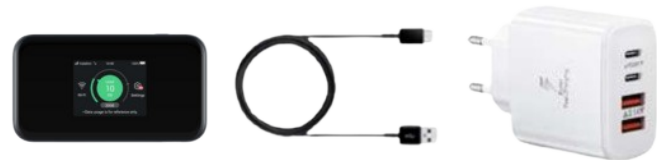
Wifi Router

Components:

Wifi Router with integrated SIM

USB cable with power supply

To ensure the entire kit functions properly, the router must never be disconnected from the power supply and should be located in the same room or very close to the other devices.



Smartwatch

[Menu](#)

The Smartwatch app will handle sensor data pre-processing, storage, and transmission. It will extract key parameters such as heart rate, blood oxygenation, sound intensity, physical activity index, ambient light, and proximity, ensuring efficient monitoring and data management.

[Smartphone](#)

[Menu](#)

...ner data pre-processing and storage. It will extract parameters including physical activity, sound intensity, global position, light, proximity, temperature, and smartphone interaction, ensuring efficient monitoring and data management.

Smart Shoes

Components:

- Smart Shoes
- USB cable x2 with power supply



Smart shoes prototypes are tailored to the needs of the data collection platform and will incorporate pre-processing algorithms. Parameters to be extracted include the duration of gait phases (stance, swing, double support), walking velocity, cadence, average step length, total number of steps, and mobility index.

[Menu](#)

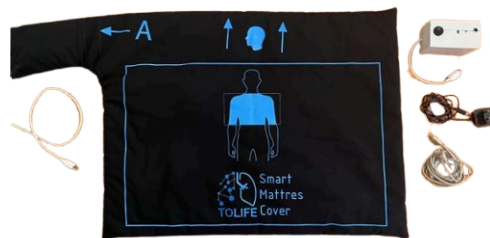
integrated bedside
electronic unit

Bedroom Box Case

USB extension cable

Power supply unit

Smart mattress prototypes will include a pressure sensing matrix, triaxial accelerometers, environmental sensors, and a docking station for data reprocessing and transmission. The parameters to be extracted include sleep quality indices, subject sleeping position and motion, breathing rate with chest identification, heart rate, environmental sounds, temperature, humidity, and luminosity.





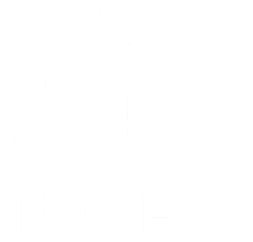
Menu



DOWNLOAD THE TOLIFE KIT USER MANUAL

Duration: 54 months



[Menu](#)

PROJECT DETAILS

Project number: 101057103

Project Full Title: Combining Artificial Intelligence and smart sensing TOward better management and improved quality of LIFE in chronic obstructive pulmonary disease

Project Acronym: TOLIFE

Topic: HORIZON-HLTH-2021-DISEASE-04-04

Type of action: HORIZON Research and Innovation Actions

Granting authority: European Health and Digital Executive Agency

Duration: 54 months



“Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor the granting authority can be held responsible for them.”

