Axiamo PADIS 2.0
Long Term Activity Monitoring in Soldiers

Axiamo PADIS 2.0 is the next generation of long term soldier activity monitoring. The system is designed to monitor large squads of soldiers over a long term period of time. It consists of two motion sensors and a heart rate sensor. One of the motion sensors is worn at the hip and the other is attached to a backpack. The system is designed for easy use. It requires minimal user interaction for setup and data evaluation. Compact sensor size and a waterproof case allow for use in harsh environments.

The system features activity monitoring over a period of 7 days without user intervention. After the measurement period, the Axiamo PADIS 2.0 sensors are connected to the sensor hub for automatic data extraction. Fully automatic data processing and comprehensive visualization reveals the group’s physical activity and energy expenditure with minimal effort for the operator.
System Features

Raw Data (2 second interval)
➤ Heart rate [bpm]
➤ Acceleration hip [cpm]
➤ Acceleration backpack [cpm]
➤ Step frequency [Hz]

Processed Data (60 second interval)
➤ Activity classification
➤ Physical activity energy expenditure [kJ/min]
➤ Total energy expenditure [kJ/min]
➤ Speed and distance on foot [m/s]
➤ Heart rate [bpm]
➤ Acceleration hip [cpm]
➤ Acceleration backpack [cpm]
➤ Step frequency [Hz]

Activity Classification

Pre defined activities
➤ Marching
➤ Marching with backpack
➤ Running
➤ Physically demanding material handlings
➤ Inactivity
➤ Other activities of low, medium and vigorous intensity

Daily Reports

➤ Date
➤ Person ID
➤ Distance [m/day]
➤ Physical activity energy expenditure [kJ/day]
➤ Total energy expenditure [kJ/day]
➤ Time spent on each activity class [min]
➤ Average intensity (PAEE) of each activity class [kJ/min]

Product Facts

➤ Product price: 799 CHF per soldier
  big volume price on request
➤ Product contents: 2 Axiamote motion sensors
  1 Heart rate monitor*
➤ Battery lifetime: 7 days continuously
➤ Interfaces: USB, Bluetooth
➤ Software platforms: Windows, Linux

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Automatic estimation of resting heart rate

Processed data visualization

Axiamo PADIS 2.0 is the next generation of PARTwear PADIS (2012). The system is scientifically validated with hundreds of hours activity data of soldiers (see referenced publications).

Developed in cooperation with the Swiss Federal Institute of Sport Magglingen SFISM.

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References: