

The Most Advanced
Technology for
Balancing Stress and
Recovery



Firstbeat Life for Research Use

Firstbeat Life is a unique solution that promotes health and well-being, helps identify potential risks and supports users perform at their best. For research, it provides easy access to highly accurate ECG-based heart rate variability (HRV) monitoring for assessing physiological reactions.

Firstbeat Life for Research includes the Firstbeat Bodyguard 3 measurement device and Firstbeat Life mobile application for participants. Researchers get remote access to participants' data such as beat-to-beat heart rate, stress, recovery, sleep and physical activity metrics. The data can be gathered over long-term periods or at specific points of interest.

Bodyguard 3 is a personal measurement device for clinical grade ECG-based HRV monitoring. In research projects and for educational purposes, devices may be re-used and circulated between research participants. Researchers can purchase electrodes directly from Firstbeat or use compatible clinically approved ECG electrodes with the device.

The use of Firstbeat Life service and measurements require an active license for each participant. For research use, minimum license duration is 1 month. The research project leaders can manage licenses and track results through the Firstbeat Life Admin tool. In addition, Firstbeat offers full Data Export covering the available scalars and vectors (see last page).

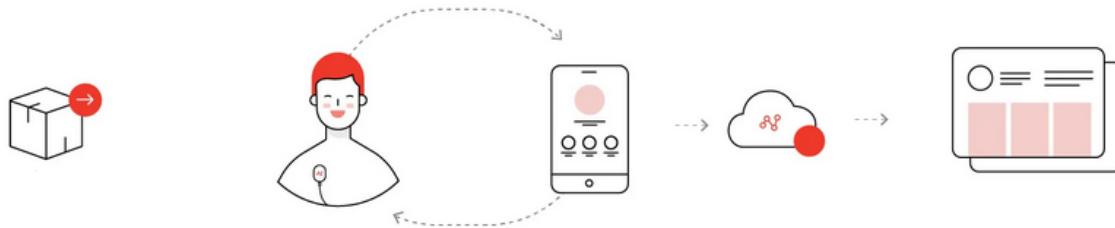
Pricing

** 24% VAT is added to all prices*

Bodyguard 3 devices (shipping costs will be added)	770€ / 10 pieces
Electrodes 10 pouches / 300 pcs	33€ / box
Firstbeat Life Admin Tool for research customer including 1) Access to participants' reports 2) Standard group reporting 3) Data Export for uploading detailed analysis results	2900€ / year
Firstbeat Life Subscription Licenses Minimum license duration 1 month	9€ / user / month

Firstbeat Life platform

How to Get Started



When a new research project starts, the selected number of Bodyguard 3 measurement devices are delivered in a single bulk package to the customer. The researchers can manage the participants' licenses in Firstbeat Life Admin tool and distribute the personal devices to research participants as needed.

The participants collect measurements on their own and can give their consent to use their measurement data in research via the Firstbeat Life mobile app. Their data is automatically synced to Firstbeat's Cloud services and accessible to the research customer as individual and group reports in the Firstbeat Life Admin tool.

Why to Choose Firstbeat Bodyguard 3

Firstbeat Life uses the Firstbeat Bodyguard 3 sensor to measure ECG and 3D acceleration. The Bodyguard 3 uses clinically approved medical electrodes to monitor ECG-based beat-to-beat heart rate data. This is the "gold standard" for heart rate variability (HRV) monitoring used in clinical settings.

The technology is reliable for all users, both during rest and in motion. Unlike optical sensors, accuracy is not dependent on, e.g., skin pigment or temperature, anatomy or motion state. From the accurate data, we confidently assess the physiological reactions can be confidently assessed. For a list of parameters, see last page.

Key features:

- RR-intervals with 1ms resolution
- Battery life: up to 10 days
- BLE connectivity to Firstbeat Life app
- Weight 26g
- IP55 (water resistant)



Data export content for Firstbeat Life

Scalars

Personal background information

- Age (years)
- Gender (male, female)
- Height (cm)
- Weight (kg)
- Physical activity class
- Heart rate minimal (bpm)
- Heart rate maximal (bpm)

Period information

- Period type (measurement, day)
- Period start time
- Period end time
- Period duration

Data quality

- Average artifact percentage (%)
- Average artifact percentage (%) during sleep

Heart rate

- Heart rate average (bpm)
- Heart rate measured minimal (bpm)
- Heart rate measured maximal (bpm)

Firstbeat scores

- Firstbeat score: Stress & Recovery balance
- Firstbeat score: Restorative effect of Sleep
- Firstbeat score: Physical activity (unlimited)
- Firstbeat score: Physical activity
- Firstbeat score: Overall score

Physiological state

- Recovery: duration & percentage
- Stress: duration & percentage
- Disconnected: duration & percentage
- Recovery from exercise: duration & percentage
- Unrecognized state: duration & percentage

Physical activity

- Vigorous exercise: duration & percentage
- Moderate exercise: duration & percentage
- Light activity: duration & percentage
- All activity: duration and percentage
- Walking and running step count

Energy expenditure

- Energy expenditure (kcal)
- Energy expenditure during light activity (kcal)
- Energy expenditure during exercise (kcal)

Sleep and awake period

- Sleep duration
- Recovery during sleep: duration & percentage
- Average RMSSD (HRV) during sleep
- Recovery during awake: duration & percentage (%)

Body resources

- Body resources change

Fitness level (VO2max)

- VO2max (ml/kg/min)
- VO2max classification

Training effect

- Aerobic Training Effect
- Anaerobic Training Effect

Work and leisure

- Work time duration
- Recovery during work: duration & percentage
- Recovery during leisure: duration & percentage

Alcohol

- Alcohol unit count

Vectors

Time series information

- RR-interval series (in milliseconds)
- Heart rate series
- Artifact percentage series
- Oxygen consumption percentage series (%VO2max)
- Physiological state series
- Relax-stress intensity series (RSI)
- Body resources series
- HRV (RMSSD) 5min series
- Diary markings