

## IST Vivago® Care System

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The Vivago Care System is a device that continuously monitors a person's activity levels 24 hours a day. This device is most commonly used by elderly individuals, who want to feel secure, but still live an independent life at their home. Institutions such as nursing homes and hospital wards also utilize this device to help monitor their patients. The Vivago system is useful for people with Alzheimer's or dementia, who may experience confusion and have a tendency to wander.

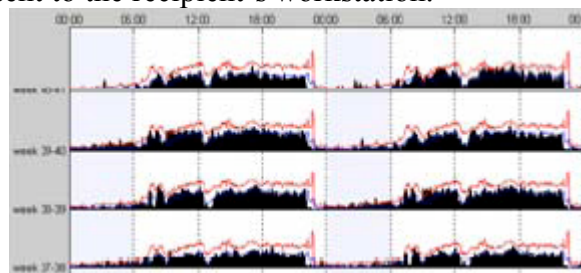
The Vivago Care system constantly measures movement by using the patented IST BODYCODE technology. Many sensors that are located in the straps and the back of the plate can monitor temperature, skin conductivity, micro and macro movements, and any significant changes in the individual's normal movement pattern. Institutions can utilize these signals to detect if one of their patients is wandering around instead of sleeping, or detect changes in sleep patterns.



While wearing this band, the user's movements are tracked by several sensors. These sensors are very sensitive, and can even detect slight muscle movements inside the wrist, as well as major body movement. This unit is unique since it can call for help if the user is not able to press the alarm button (loss of consciousness). Automatic alarms are based on decreased activity data, which could signal injury or trauma. An alarm will be triggered if there is a total lack of movement or even a long

period of passive movements. The skin conductivity sensor can also detect if the device has been removed for a certain period of time, so the user can be alerted to reattach the band.

There is also a button on the wrist band in case the user experiences an emergency and needs assistance. Institutions can also use this button as a call for assistance. However the sensors in this device are what makes it unique from other personal alarm products. Data is sent from the wrist unit to a base station. A home base station is connected to a phone line, and can notify personnel if a problem has been detected. Data is also continually recorded and sent to the recipient's workstation.



The Vivago system underwent a three month evaluation test, which included 83 elderly people living in assisted living facilities or at home. Data showed that the users stayed within the base unit's 20-30 m monitoring range 94% of the time. Also, user compliance was high due to the fact this device is relatively discrete and comfortable.

Battery life ranges from 6-9 months and is waterproof. In 2006, the Vivago system was awarded the Frost and Sullivan Award for Product Innovation.

### References:

- [http://basie.exp.sis.pitt.edu/1842/1/computing\\_technologies\\_supporting.pdf](http://basie.exp.sis.pitt.edu/1842/1/computing_technologies_supporting.pdf)
- <http://www.istsec.fi/doc/en/IST-Integrated-Systems.pdf>
- <http://www.istsec.fi/vivago-pam/en.php?k=8361>
- Ni Scanail, Cliodhba, et al., "A Review of Approaches to Mobility Telemonitoring of the Elderly in Their Living Environment." *Annals of Biomedical Engineering*. 34.4 (2006): 547-563.