

Vox ICE

Senior care when
they need it most



Vox ICE is aimed at assisting seniors who live alone and wish to maintain their independence. While technology will never be a replacement for personal caregiving, Vox ICE helps alleviate some of the burden

by offering caregivers insight into the daily lives of their loved ones and allowing them to react timeously should an unfortunate incident occur.



How Vox ICE Works

The Vox ICE system is a subscription service featuring sensors designed to detect an independent, solitary senior's movement and general behaviour when placed inside their home.

The sensors automatically connect to a communications network to transmit data to the Vox ICE platform, where a specialised algorithm "learns" the senior's behaviour over a period of time and alerts the caregiver, via the platform or SMS, if the senior's behaviour seems "abnormal".

For example:



An accidental fall.



Forgets to perform certain routine tasks (i.e. close the front door).



Spends more time in bed than usual.



Leaves home without any form of communication, and the caregiver is unaware of their whereabouts.

The system consists of the following elements:

- Motion sensors – installed in all rooms used for more than 15 minutes a day. The motion sensors detect movement and temperature, automatically sending this information to a platform that requires authorisation for access. The senior's privacy is not compromised at all.
- Door sensors – installed at regularly used doors, especially those used to access the senior's home. These will notify the caregiver if an important door is opened or closed outside of pre-set times.
- A geo-location alert pendant – this is a device a senior can easily carry with them whenever they leave home so their whereabouts are always known.
- The Vox ICE platform - an easily accessible online platform that allows the caregiver to set certain parameters and alerts and view daily living patterns as well as receive cautionary alerts and emergency alarms via SMS.

Motion Sensors

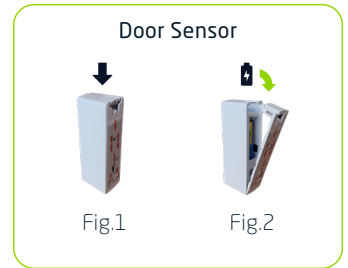
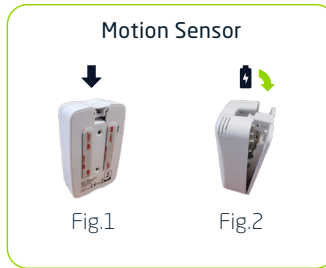
Door Sensors

Wearable Geolocation Device



Hardware Installation

- No special tools or skills are required to install the sensors. The sensors connect automatically to the Vox ICE platform once the batteries are inserted and the device is switched on.
- The device uses commercial AA batteries, which are user-replaceable (lithium AA batteries are recommended).



Step 1: Activation

- 1 To power up, remove the plastic lock on the back of the case.
- 2 Insert batteries.
- 3 A red light will flash for 60 seconds.
- 4 Once it stops, an uplink message with a downlink request is sent.
- 5 If, after thirty seconds and a short pause, the LED changes from red to green, the sensor has activated without any problem.
- 6 If this doesn't happen, open the sensor as shown (Fig. 2), make sure the batteries are inserted correctly and re-activate them.
- 7 Do the same with the door sensor.

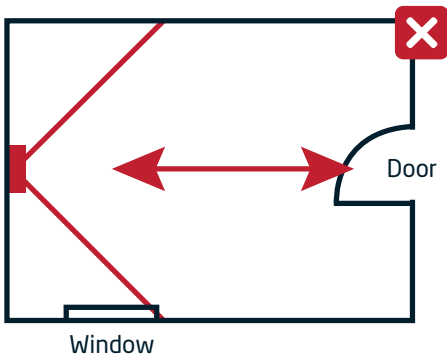
Step 2: Placement

- 1 Place a sensor in each room that's used for 15 minutes or more every day.
- 2 The recommended height to place each motion sensor is 1.6m to 1.8m above the ground.
- 3 The sensor can be attached to the wall using screws (there are holes at the back of the sensor) or double-sided tape.
- 4 The sensor should be placed in such a way that it can "see"/cover the whole room.
- 5 For example, in the image attached, green is best, orange is acceptable and red is not ideal.

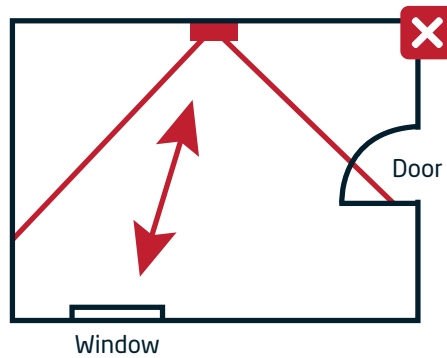


It's important that **nothing obstructs the view of the motion sensors**. They also shouldn't be placed in or near doors or windows. The motion sensors should be **not** be installed in the following areas:

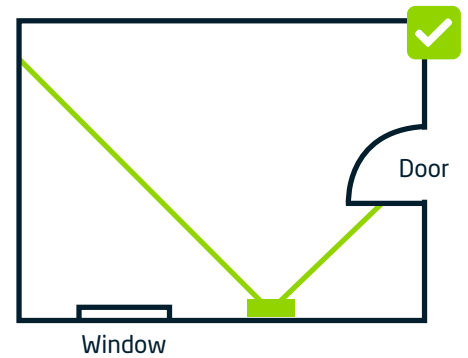
- Facing areas that might change temperature quickly.
- Facing a window or in direct sunlight.
- Hidden by decorations.
- In or near water/liquids.



The sensor shouldn't be installed facing a door as it will detect movement outside the door (when open) and this affects the algorithm of the platform.



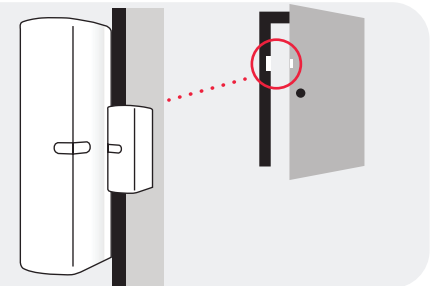
The sensor shouldn't be in front of the window.



Put sensors between 1.6m and 1.8m above the ground. Always choose a wall perpendicular to the entrance of the room.

The door sensor should be installed on the inside of the door frame of the entry door. We recommend installing a large sensor on the door and a magnet on the door frame. The sensor will work even if you decide to put the magnet and sensor on the door instead of the frame, as shown in Fig. 3.

Fig. 3



The Vox ICE Platform

The Vox ICE platform allows the caregiver to gain insights into any "abnormal" behaviour of a senior and offers:

- **Continuous activity analysis** - the system allows a permanent follow-up of risky situations. This algorithm bases itself on statistical analysis combined with contextual analysis integrating real-life scenarios.

- **Self-learning** - the algorithm will gain an understanding of the senior's activities by analysing movements and the time spent in each room over a certain period.

Gain insights into any "abnormal" behaviour

The system consists of the following elements:

- **Critical Alerts** - the system automatically learns the lifestyle of a senior in a few days. In the case of an anomaly that could be the consequence of a fall or fainting (i.e. abnormal absence of movement or not waking up) an alert is automatically sent to a call centre or the caregiver, if need be.
- **Preventive Alerts** - thanks to Vox ICE's preventive alerts, it's possible to anticipate problems and support an impending loss of autonomy. The main goal of this service is to detect small anomalies that could potentially lead to bigger problems in the future.

Events:



Night exit



No daily exit



Strange night activity



Front door open



Abnormal temperature



Left during the day and no return before hour H



Reduced activity

Logging in to Vox ICE

1



Login Details

Once you've signed up for Vox ICE, you will receive an email with login details as well as a password.

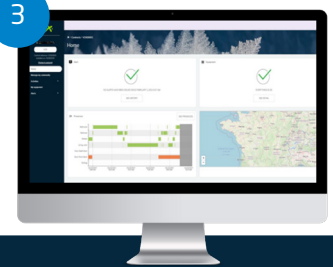
2



Login

From there, head to the Vox ICE website to log in to your account.

3



Homepage

The Vox ICE homepage provides an overview of your alerts, equipment status, the presence of your senior (or the person in your care) as well as the GPS position of the geo-location device (coming soon). It also provides a link to change your password.

4



Manage My Community

This section offers an overview of your senior (or person in your care) and your fellow caregivers.

5



Activities

This section leads to a page where the behaviour of your senior can be monitored. The Presences tab lists an overview of daily movements and offers the ability to zoom in on specific periods.

6



Daily Activities

This tab provides a summary of your senior's daily activities over a certain period (customisable to your needs).

7



Sleep Patterns

View sleep patterns and the number of wake ups during the night (customisable to your needs).

8



Temperature

View a room's average temperature over a certain period (customisable to your needs).

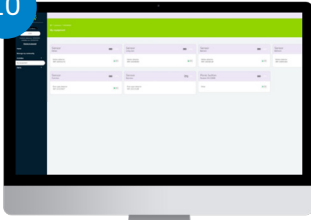
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GPS Tracking

The GPS Tracking with geo-location tab (coming soon).

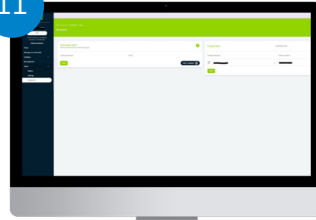
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My Equipment

This tab provides an overview of your installed equipment.

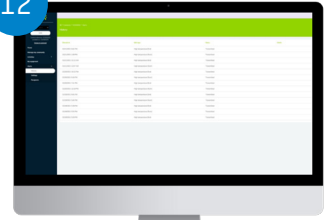
11



Recipients

This allows you to add caregivers' details for critical or preventative alerts. There are no limits to the amount of caregivers you can add, but keep in mind, they will have access to your senior's details.

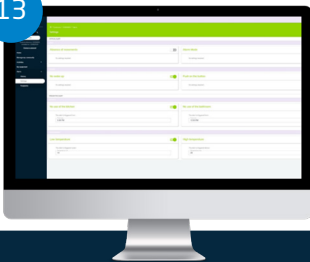
12



Alerts History

This provides an overview of the times and types of alerts transmitted.

13



Alerts Settings

This allows you to choose the various conditions and settings for Vox ICE to send cautionary or emergency alerts.



These settings include:

- Absence of movement
- Alarm mode – when your senior leaves the premises, the sensors can be activated to detect movement inside the house (Please note: this does not replace an alarm system and there will be a delay in sending alerts)
- No wake-up
- No use of the kitchen
- No use of the bathroom
- Low temperature
- High temperature
- No daily outing
- Night out – outing after a certain time
- Day out and no return before XX hours
- Exit of house for more than XX minutes
- Open entry door



Frequently Asked Questions

Can the system be installed by the caregiver?

Yes, the system is easy to install and requires no special tools or DIY skills.

Do I need Wi-Fi or Internet access to use Vox ICE?

No, the sensors connect to the Vox ICE network automatically.

What happens to Vox ICE if the power fails?

The sensors will continue monitoring and recording as they are battery operated and the batteries can last up to two years.

Does the caregiver need to set up the system manually?

Yes and no. The system will "learn" the behaviour of the beneficiary over a period of time (around 10 to 14 days). The caregiver only needs to set up the cautionary and critical alarms based on their requirements.

How quickly does Vox ICE start detecting unusual behaviour?

To prevent as many false alarms as possible, the system analyses data with a 20 minute lag. Based on the settings provided, it can take around 20 to 40 minutes to generate the first alert.

How do I reset the "learning process" of the senior's behaviour?

Resetting the learning process can be done via the platform. Go to Settings - Analysis and change the current date to start fresh.

The system doesn't record the correct movements when there are more people in the apartment.

As the system is based on movement sensors, it's not possible to determine if the movement is caused by one person or more. In this case, presences will be switching between these two rooms where the movements are occurring. Regular short visits don't have much of an effect, however, longer visits and overnight stays may disturb the learning process and in those cases, it's good to restart the learning process when your senior is alone at home again.

Why am I getting false alarms since my senior returned from hospital?

It's possible that after returning from hospital your senior has changed their behaviour. If so, it's a good idea to restart the learning process.

Why are the outings not correctly detected?

Outings are detected based on no movement within the monitored home and opening a door. The incorrect detection of outings may be caused by the door sensor, where the magnet is not correctly installed and the openings are not detected, or the sensor has low signal coverage and the messages are getting lost.

Will the presence of pets, like a dog or a cat, affect the algorithm?

No, not unless the dog weighs more than 25kg.

If you have any queries or concerns regarding your Vox ICE system, please don't hesitate to get in touch with our Support Centre by contacting:

Tel: +27 (0)87 805 0530
Email: help@voxtelcom.co.za

