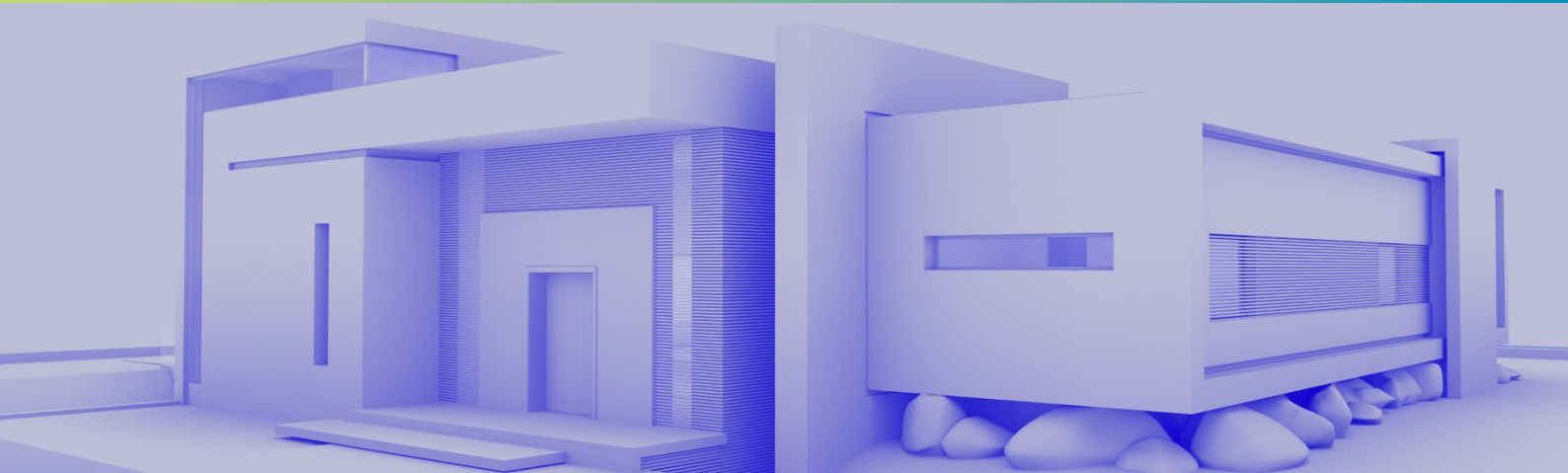


# Residential

Accur8vision is shedding a new light on the security and safety world for its ability to now track an intruder or object the entire time.



## Challenge

- How to protect children from falling into swimming pool while adults are still in the area?
- How to let workers to take care of garden or backyard while you are out of home?
- What about fake alarms? How to prevent from passing by peoples to sneak into your window?
- Can Accur8vision be taken on the go and still had security under your thumbs?

## Solution

- Placing a security zone on top of and around a pool will allow an alarm to be activated if a child enters the zone.
- It is possible to add the thinnest zone around the outside of your home. This allows the gardeners to move around the property freely but does not let them enter the establishment.
- Accur8vision snapshots are a way to help eliminate false alarms.
- Accur8vision is now a mobile web client that you can access on any mobile device while away from home.

Residential safety and security has become a major concern across the world. Robbery, riots, stalking there are many things that concern residential clients from all classes. Gardens, backyards, swimming pools becomes targets for human or non-human (drones) intruders. Privacy or property are at risk more than ever.

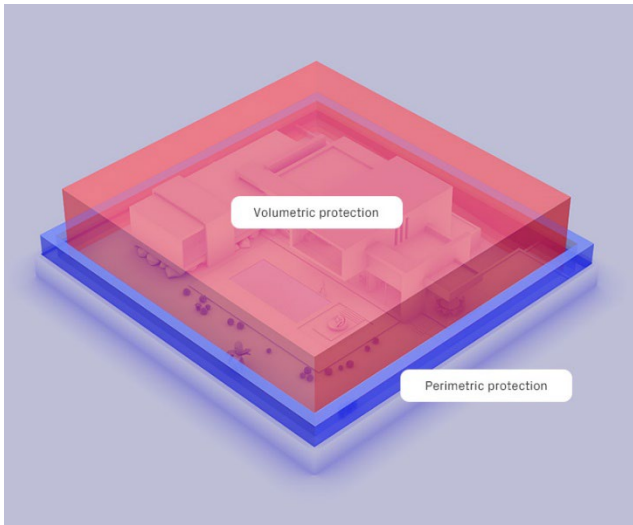
With the help of lidar technology paired with the accur8vision software, the safety and security of the residential buildings can now be monitored. Lidars are mostly known for the autonomous industry but are becoming known in other industries like security, smart cities, robotics and much more.

Combining lidars with accur8vision allows the tracking and monitoring of objects and is a safe way to secure not only humans but property.

How to protect children from falling into swimming pool while adults are still in the area? How to let workers to take care of garden or backyard while you are out of home? What about fake alarms? How to prevent from passing by peoples to sneak into your window? Can Accur8vision take into account a car which before raised alarm but now is standing still for a while? And what about integration into existing surveillance systems? Can Accur8vision be taken on the go and still had security under your thumbs?

These are all questions that accur8vision can answer. Accur8vision is an answer for the future needs of the safety and security world.

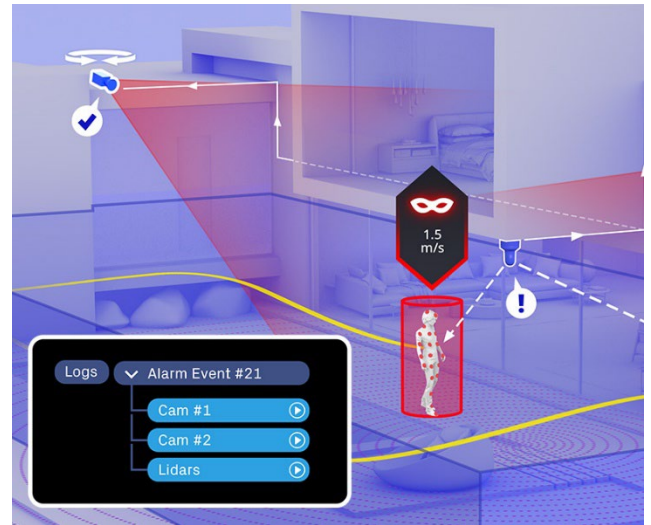
## 1 | Volumetric and Perimeter Protection



Accur8vision uses security zones to protect not only volumetrically but also along the perimeter.

With the use of lidar technology it is now possible to secure an entire area instead of just the perimeter. But what if the perimeter is the only thing that needs protecting? Both ways are possible inside accur8vision with the creation of zones. Zones are where the alarm happens. If an intruder enters a zone, an alarm will be activated. Zones come in all shapes and sizes. It is possible to set the width, length, and height of the zones as they are 3D objects inside the map. It is also possible to have either one zone or one thousand zones. The number of zones inside one 3D map is limitless. Zones can also have different priorities. By using an I/O module it is possible to have the zones shut gates, turn on or off lights, lock doors, etc. Zones also allow a person's yard to be disarmed during the day and armed at night. Individual zones can have their own settings and priorities and can be armed or disarmed individually or all together. If a person is having a party or gathering in their yard and they want to move freely around, it is possible to have the zones in the yard disarmed but have the zones around the perimeter armed. The many possibilities of the zones allow the system to create the perfect solution for every person's needs. Accur8vision allows security that no other conventional system offers. Having the ability to decide which area of the house and yard is armed is something that only accur8vision can offer. Like it was said in the beginning, the use of lidar technology allows the possibility of having coverage in the entire yard, the entire house, and if necessary, also the boundary.

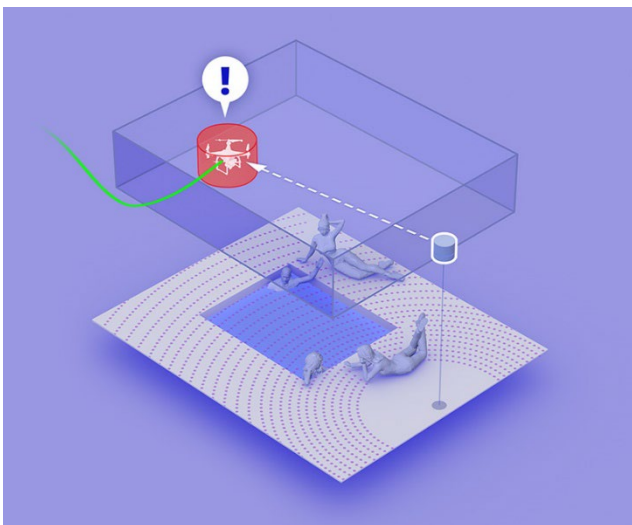
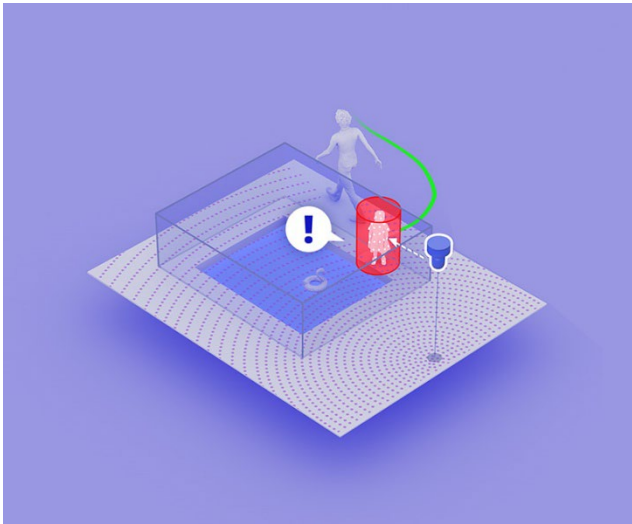
## 2 | Alarm Event



Accur8vision can track an intruder, show the trajectory, pilot the cameras to the intrusion point and save it all in archive in an alarm event.

When an intruder enters an active zone, an alarm is activated. The user is then able to see the speed, movement, and trajectory of the intruder. The trajectory is a helpful way in seeing where the intruder came from. Once the intruder or intruders enter an active zone, all cameras in the area of the zone will rotate to the point of intrusion. Cameras and lidars work together inside accur8vision where the lidar navigates the camera on where to look. The camera, for example, will prepare itself to see the intruder before the intruder is even in view. This gives the user coverage not only with the lidar but with the camera also. When the alarm has been confirmed or disarmed the video recording and a8v recording of the lidar points will go into archive. The user will have 2 separate videos of the event. The recording from the camera and the recording from a8v. This event can be searched for in accur8vision logs by using the dates or on the calendar. These are great tools to have during an alarm event that will help the user have more information on the intruder and the alarm event itself.

### 3 | Swimming Pool Security



Accur8vision can contribute to the safety and security of swimming pools and the surrounding area.

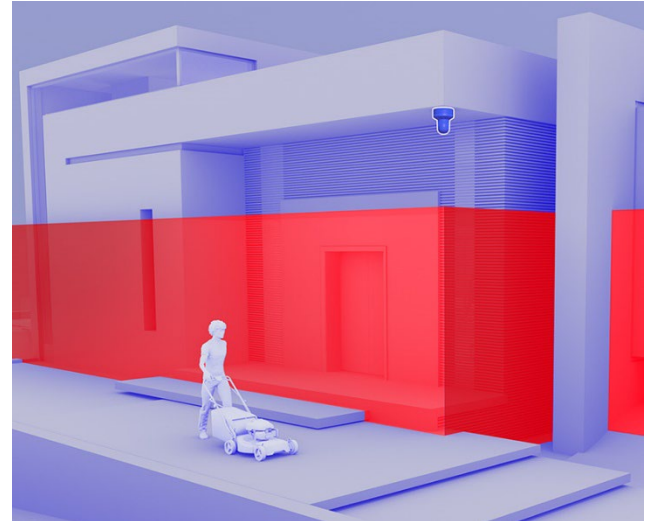
Placing a zone on top of and around a pool will allow an alarm to be activated if a child enters the zone. This will alert the parents that the child is near the pool and needs to be removed from the situation. Even if the pool is 'secured' by a fence, does not mean that the child would not be able to gain access to the pool. It is also possible to place zones around the fence. This way an alarm will be activated even if the child is close to the fence. Keeping children safe has never been easier.

To still feel safe and secure while taking that midnight swim or even swimming during the day is something that accur8vision can help people achieve. Settings per zone can be done in such a way that a small path from the house to the pool can be opened. The zone above the pool and right next to it can be opened. Having these zones disarmed allows the people to enter the pool from the house for a swim but does not affect the security of the rest of the property. With accur8vision only the zones that are disarmed will not set off an alarm, but all other areas will still be protected.

When it comes to privacy people want to make sure that they have it. While hanging out in the backyard, swimming or sunbathing, people do not want to worry about the threat of drones. The zones inside accur8vision can have any length, width,

or height. With the use of lidar and accur8vision it is possible to place the lidar at an angle which will then cause a type of net of lasers making it possible to detect a drone. Although accur8vision does not come with any type of 'jammer' for the drone it is possible to purchase said equipment to further help in the protection against drones.

### 4 | Building Shell



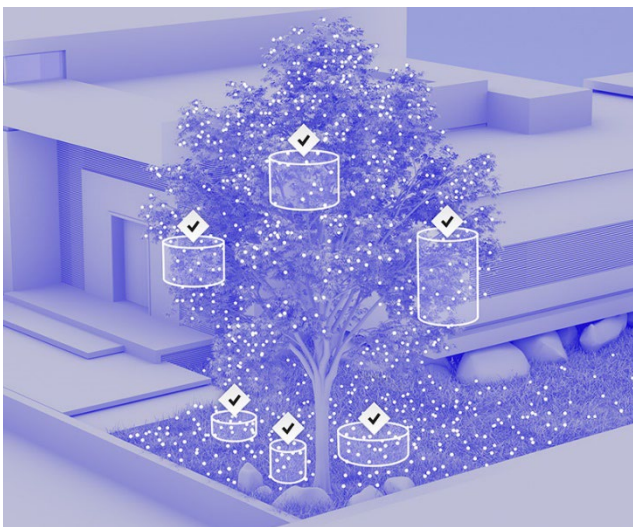
Accur8vision has the ability to protect your home but let workers and people into your yard.

When away from home but needing necessary yard work done there is a way to protect your home from any unlawful entry. Security zones inside accur8vision can be done in any size or shape. It is possible to add the thinnest zone around the outside of your home. This allows the gardeners to move around the property freely but does not let them enter the establishment. The homeowners can come home to a beautiful yard and not have to worry that anyone had been inside their home.

Another way to use the thin zone barrier is at night. In conventional security systems, sometimes it is necessary to have all the windows in the home closed so that the magnetic strips are touching, and an alarm is not activated. This might limit the homeowner from opening their windows at night. With accur8vision the security zones can be of any height. Homeowners can place the zone barrier around their homes and if anyone enters this zone or even if a hand is placed in the zone, an alarm will be activated. It is a perfect way to enjoy the fresh air and not have to worry about anyone entering the house while sleeping.

With the use of the thin zone barrier, homes during the day and at night will always be secure.

## 5 | Snapshots



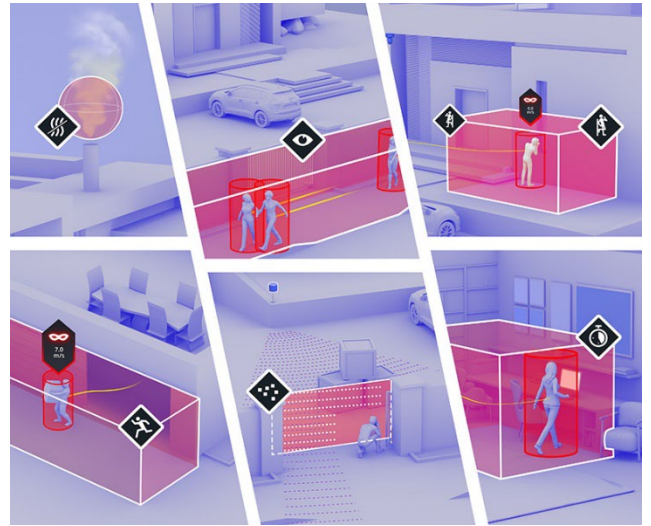
Accur8vision snapshots are a way to help eliminate false alarms.

There are two types of snapshots inside accur8vision. The point of the snapshots is to help eliminate false alarms and to also help filter the lidar points so that the ones that are necessary are the ones being used.

The **long-term** snapshot is the first snapshot that is taken and only needs to be done once. After setting up the system it is necessary to take the long-term snapshot. A snapshot takes a type of 'picture' of the scene to help differentiate between moving and static points. This way if something moving enters a scene that was not there before, matches the scale set, and enters a zone, a bounding box will be placed around these moving points. The snapshot is also important to help out with the movement of the grass and trees in relation to eliminating false alarms.

The **short-term** snapshot is taken every time a zone is activated. This snapshot helps update the area of the zone in case of any new items that have not been taken into consideration yet. This helps eliminate false alarms even more. The idea behind the snapshot is to help stop false alarms and to also focus on the lidar points that need to be focused on.

## 6 | Zone Types



Accur8vision uses different types of zones to fit the needs of the client.

An alarm event happens when an intruder or person walks into one of the security zones that can be placed throughout the property. It does not matter how many zones are placed on the property. To help further secure an area, accur8vision now comes with different types of zones.

**Detection** - Zone in which we define the guarded area

**Delayed** - This allows so many seconds before an alarm is activated. Can be used with access control systems.

**Loitering** - An alarm is activated if you have a certain object in the zone for a certain amount of time. The time and number of objects is set, if the condition of time and number of objects is met an alarm will be raised.

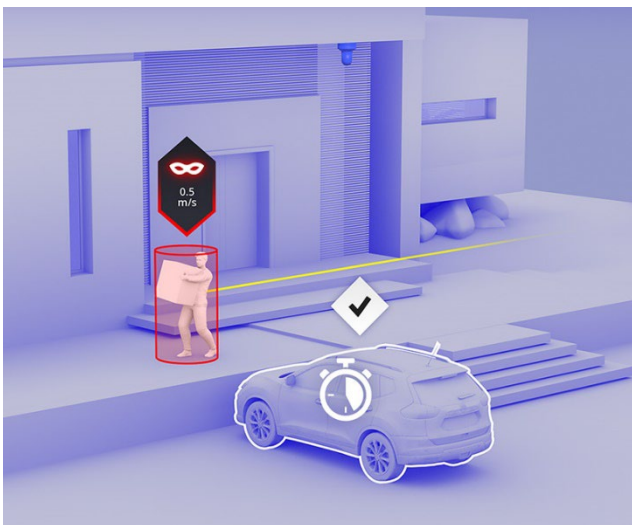
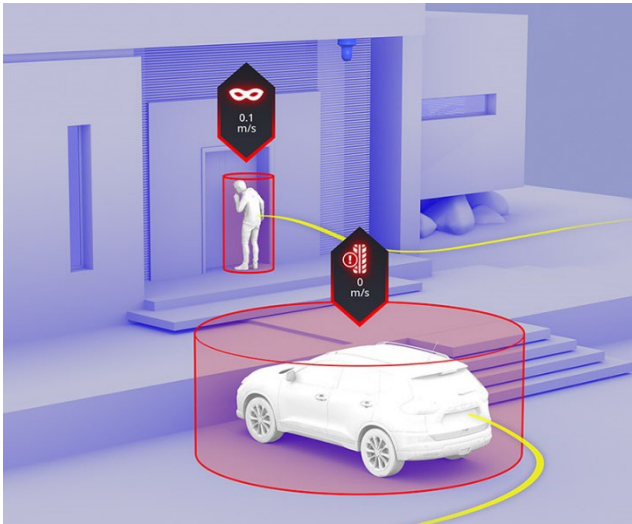
**Checkpoint** - When an area inside the zones is to have a certain number of points. For example, a gate. If the points change for whatever reason, maybe a truck is blocking the gate, the alarm will be activated. Here the number of points and time is set, if the number of points disappears below this threshold and the disappearance of points lasts for the set time, an alarm is triggered.

**Pre-Arm zone** - This allows a zone to be placed around the actual alarm zone. This zone will not cause alarms but will allow the cameras to rotate to the point of action inside these zones. This way the operator is able to check the event logs in case of any problems.

**Distraction** - This zone is the area in which strong steam is moving, no alarm will be raised in this zone.

**Safety distance zone** - This zone makes it possible to warn of dangerous distances between objects. Based on the object classification, it is possible to set warnings about the distance between optional classes. We recommend considering deploying this zone for ensuring workplace safety.

## 7 | Aging the Scene



Accur8vision can allow an object to become part of the scene after an amount of time passes.

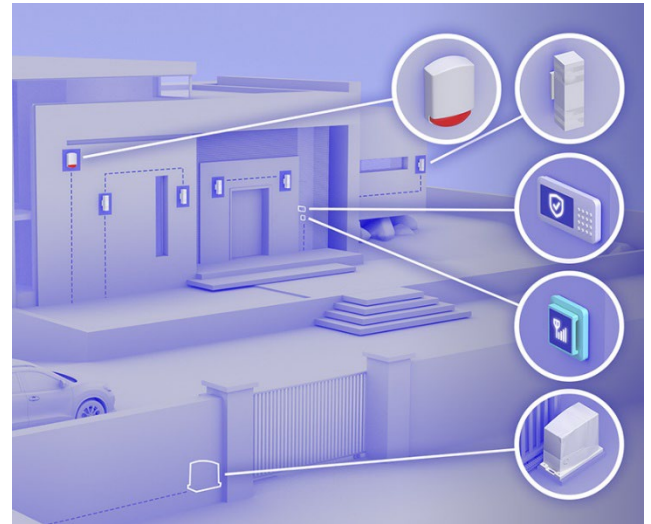
Having items enter the scene that need to become a part of the scene can be a bit tricky. For example, if a new car enters the driveway security zone and was not part of the scene than an alarm can be activated. That means that the camera will focus on this car until the alarm has been confirmed or deactivated. This can be quite a nuisance if it is not handled properly.

Accur8vision can now 'age the scene'. If a new item enters a zone and does not move for 30 seconds, per say, then the object becomes part of the scene and will not activate an alarm. This will help in having to complete a new long-term snapshot of the area every time something new enters. It is quite convenient.

This does not take away from intruder detection of the system. If an intruder enters the zone, there will be an alarm and the trajectory will be seen. Even if the intruder stops for 30 seconds, they will eventually have to move again, and the alarm will activate if it hasn't already been activated. The silhouette of the individual will also be seen as the intruder.

The aging of the scene only allows items to become part of the scene without having them continuously set off the alarm.

## 8 | Integration and Actions



Accur8vision can be easily integrated to other systems and perform many different actions.

If a property already has a security system in place or an access control system, it does not matter. Accur8vision can be integrated with any system through its API or I/O modules. The API is very easy to handle and is very secure. It is the standard solution using REST and JSON files. The alarm situation can be monitored in accur8vision.

It is also possible to set up different actions for the system to do. Regarding zones, it is possible to set up the zones to do different things during an alarm event. When an intruder enters a zone, for example, the system can activate sirens or control lights. Some other actions that accur8vision can control could include closing or opening of gates, retarders, SMS gates and also a slave or master security system. It is up to the client to decide what they would like accur8vision to do. Threat levels are another system benefit that allows the system to perform different tasks for different threat levels. If there are more than 3 intruders in the yard, the system can be set up to handle a certain task like locking the security doors. There are many different ways to set up accur8vision for the top security and safety measures.

## 9 | Video Streaming

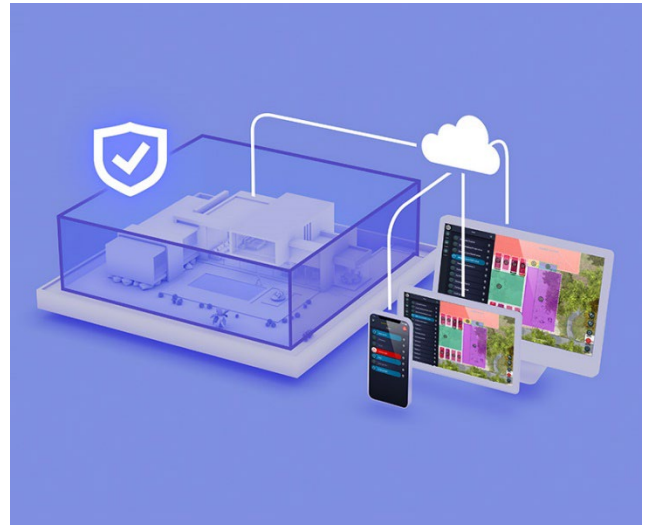


Accur8vision can be checked from anywhere in the house. Video streaming is a great way for users to have multiple capabilities of checking their alarm system throughout their home. With this service it is possible to see accur8vision on many different devices from a phone to a laptop to a tablet. These items can be placed around the house for easy access to the accur8vision system.

Because of video streaming it is possible to see everything in three dimensions, exactly as it is in the accur8vision system. Everything that is done in the system can be handled via video streaming on any operating system, for example apple or android. The user is able to use all the tools and perks that the accur8vision system has on their mobile device.

It is now easier for the user to have accessibility to their accur8vision system.

## 10 | Thin Client



Accur8vision is now a mobile web client that you can access on any mobile device while away from home.

Being able to remotely monitor your home while away on business or on a holiday, is a great way in staying connected and aware. With accur8vision lite it is now possible to enjoy the sense of freedom and security while on the go. The ability to remotely access the security system allows the user to have the information about their security system at the tip of their fingers.

With a multi-platform system that can be used on tablets, laptops, computers, or mobile phones gives the user many ways to access their system. Accur8vision lite is mainly a condensed version of accur8vision. The main difference, yet small, is that the lite client is based on a 2D map design instead of the 3D map design from accur8vision.

The user can be notified about the status of the system. For example, if there is an alarm, what threat level has been activated, arming and disarming zones, and if there is anything wrong with the lidar. Tracking of the intruder can also be seen, not as a 3D image, but as a red exclamation point when in an alarmed zone and as a white exclamation point in a disarmed zone. It is still possible to see where the intruder is. Archive for video and lidar data for alarm events can be viewed along with logs that show login and logout of users, arming or disarming of the system and information on alarm events. Realtime streaming from PTZ cameras will be available along with the camera alarm events being recorded and kept for viewing when necessary.

It is now possible with accur8vision to have security from everywhere in the world.