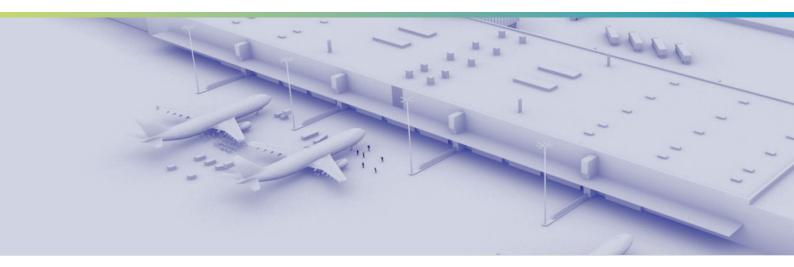


Airports

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

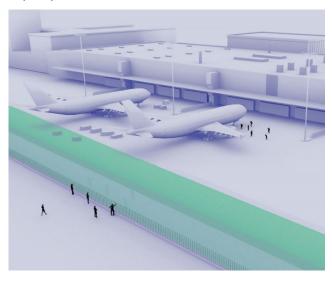
- Is it possible to secure passenger's luggage or cargo while the airplane is being prepared by airport stuff for another flight?
- Is it possible to secure airplane parts while the airplane is being prepared by airport stuff for another flight?
- Can accur8vision help in line management and social distancing which seems to be the new norm?
- Is it possible to know that there was an item that was left behind?

Solution

- Accur8vision has something that is called 'on demand' guarding. By placing a security zone around this cargo, accur8vision can alert if anyone comes near the cargo.
- Around workers unloading plane is possible to place a type
 of 'invisible' fence or security zone as it's called in
 accur8vision to protect cargo or workers from outside, or to
 allert security if workers are trying to run away with valuable
 cargo.
- Accur8vision is volumetric so anything in a given area can be counted based on settings. More of that, placing cylinders around the individuals inside accur8vision with a setting of the distancing range, for example 2 meters, allows the guards or operators to see when individuals are practicing safe distancing.
- Accur8vision comes equipped with ability to see if any object is left behind in zone for a period of time and trigger the alarm.

Airport security is an important sector throughout the world. People frequently travel for either leisure or business, but they all have the same feeling, and that feeling is that they want to be safe. But this is not the only aspect of airport safety that should be taken into regards. What about the safety of cargo? If a plane is parked with cargo aboard that will not be unloaded until later, is that cargo safe? What is to stop someone from climbing a fence and stealing that cargo? There is also the concern for cargo containers. Can cargo containers stay on the tarmac of the airport without being touched? And last but not least what about the perimeter of the airport field? Many people like to watch the planes land and take off. Should these people be allowed to do this along all areas of the fence? If an individual, makes it over the fence, where do they go? Do they go towards the containers? Do they go toward the planes that are parked with the cargo? Do they go inside the hangars and steal whatever is available? These questions can all be answered within the next few pages.

1 | Airport Perimeter



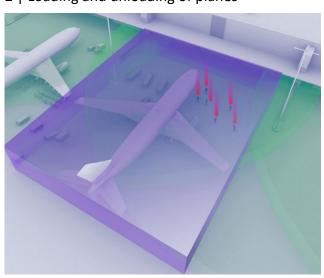
Airport perimeter security plays a major role in keeping everything inside the airport safe from planes, hangers, airports, all the way to the runways and tarmacs.

Accur8vision can be used as an extra tool to help enforce security around the perimeter. It is more than likely that all airports will have a fence surrounding the land and runway of the airports. What if it was possible to add to that fence with a type of 'invisible' fence.

Accur8vision security zones can be of any shape or height. This means that a security zone can be placed around the fence of the airport at a higher height and a bit wider than the original fence.

This way the fence can be protected without people even knowing. This can help protect the fence from individuals that like to watch planes land and take off. This can also help alert the guards that there is an individual in the area before they can even reach the actual fence.

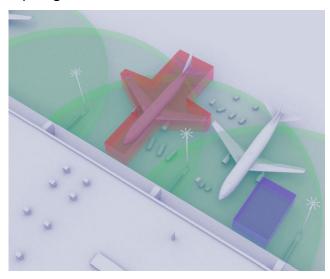
2 | Loading and unloading of planes



Cargo planes are usually full of very valuable items from either companies or individuals. How to make sure that the items on these planes never get stolen? Accur8vision is a great security system to use in these types of situations. Let's say that there are a group of workers that are unloading the plane. Around these workers it is possible to place a type of 'invisible' fence or security zone as it's called in accur8vision. This zone or fence can make it possible that only the workers are inside that area and no one else will be able to enter that area without setting off an alarm.

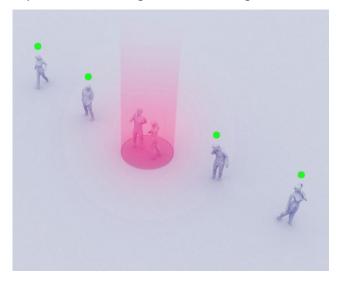
What happens when the workers leave and/or take a break? It is possible to take that 'invisible' security fence and turn it into full volumetric detection. This means that if anyone enters the security zone that is now surrounding the entire plane, the alarm will be activated. This allows the plane to be able to stay in one spot for a long period of time without being messed with.

3 | Cargo



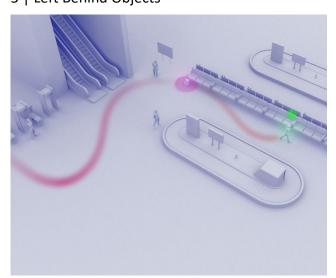
The second scenario was based on keeping the entire plane secure from theft and watching employees. In this scenario we would like to discuss cargo that is left on the tarmac after being unloaded from the train. Possibly, it needs to stay there for a few days until a different mode of transportation picks it up. It is possible to have a guard sit and watch the cargo but is it really going to deter anyone from trying to steal from this cargo? Probably not. What if there isn't a guard available?

4 | Social Distancing and Line Management



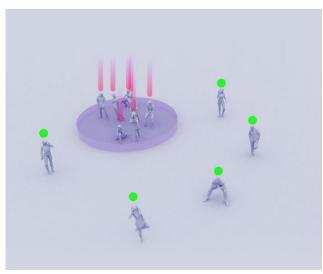
Above it showed all the great ways that accur8vision can effectively secure the outside area and perimeter of an airport. But what about the inside? Can accur8vision help in line management and social distancing which seems to be the new norm? Accur8vision is volumetric so anything in a given area can be counted based on settings. If there is a line area that is only allowed 10 people, accur8vision and the lidars can show the number of people in the line. Once this number has reached the max, accur8vision will set off an alarm so that the operator can know that the limit is at it's max. It can then either activate a gate or allow a TV screen to show that this line is at it's max and individuals will need to find a different line. What about social distancing? Placing cylinders around the individuals inside accur8vision with a setting of the distancing range, for example 2 meters, allows the guards or operators to see when individuals are practicing safe distancing. When two of these cylinders come into contact with each other, a close proximity alarm can be activated, and this information can be communicated back to the guards on duty at the airport terminal.

5 | Left Behind Objects



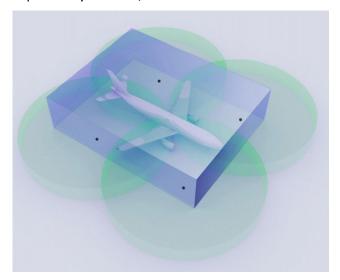
During this age of time people can be a bit nervous when they possibly see a bag or backpack or suitcase or something along these lines left by itself in the terminal or somewhere in an area that it shouldn't be. Many major city airports also have public transportation that goes straight to the airport. This is another area where something can be left behind. Was the item left there on accident or on purpose? What if it was possible to know that there was an item that was left behind. Accur8vision comes equipped with this ability by using security zones and the BLK247 lidar. Security zones can be placed throughout the entire area of the airport terminal or subway station. The operator can place these zones where they believe to be the most important. If an object is left behind in one of these zones for a period of time (which can be set by the operator), an alarm will be activated and the operator can send security personnel to see about the left behind object. This is capable due to the BLK247 which is a lidar that is also equipped with thermal cameras and 12-megapixal cameras. Another plus about the system is that the trajectory is also seen inside accur8vision. This will help authorities be able to track whom left the object behind in the first place. This can help abate the feeling of uncertainty amongst passengers and people alike and possibly save anyone from being hurt.

6 | Group Formation



There are some areas in an airport where the operators or guards will want to pay attention to individuals that might be forming into a group. There is a way inside accur8vision that if certain individuals meet for a certain amount of time, an alarm can be activated to make the operator or guard aware of what is happening. Maybe it is not a big deal or maybe it could be. But with accur8vision it allows the situation or upcoming situation to be known and handled. Another reason for group formation could contribute to safety. If there is a big group of individuals forming either in the hallways or in front of emergency exits or anywhere that could be a problem, accur8vision can let the operator be aware of these situations and the group can be dispersed before it becomes a problem.

7 | Military Aircraft, Mobile Unit



Not only can accur8vision be used in regular airports and airplane situations but also for military purposes. Accur8vision can come in a mobile unit that supports 4 lidars, a laptop and a server along with tripods for the lidars. This is a fantastic way for military cargo planes to be secure in all areas of the world. After placing the 4 lidars on the tripods, the tripods can be placed on each 'corner' of the plane. Two at the back of the plane and two at the front of the plane on each side making a sort of rectangular shape. Once this is completed a security zone or zones can be placed around the military cargo plane that will trigger alarms if anyone steps inside of the zone(s). This is a quick and efficient way to not only keep the cargo inside safe but any military personnel that are also on the plane can rest assure that their cargo and their lives will be fine until take off.

In the seven scenarios above regarding airports and military planes it is well noted that accur8vision is a very versatile system that can be used in many different ways in regard to security and safety at airports. From securing cargo to securing planes to securing the actual airports, accur8vision is a way to keep all items safe and secure and to also give a sense of safety to passengers and/or customers.

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future. Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB.