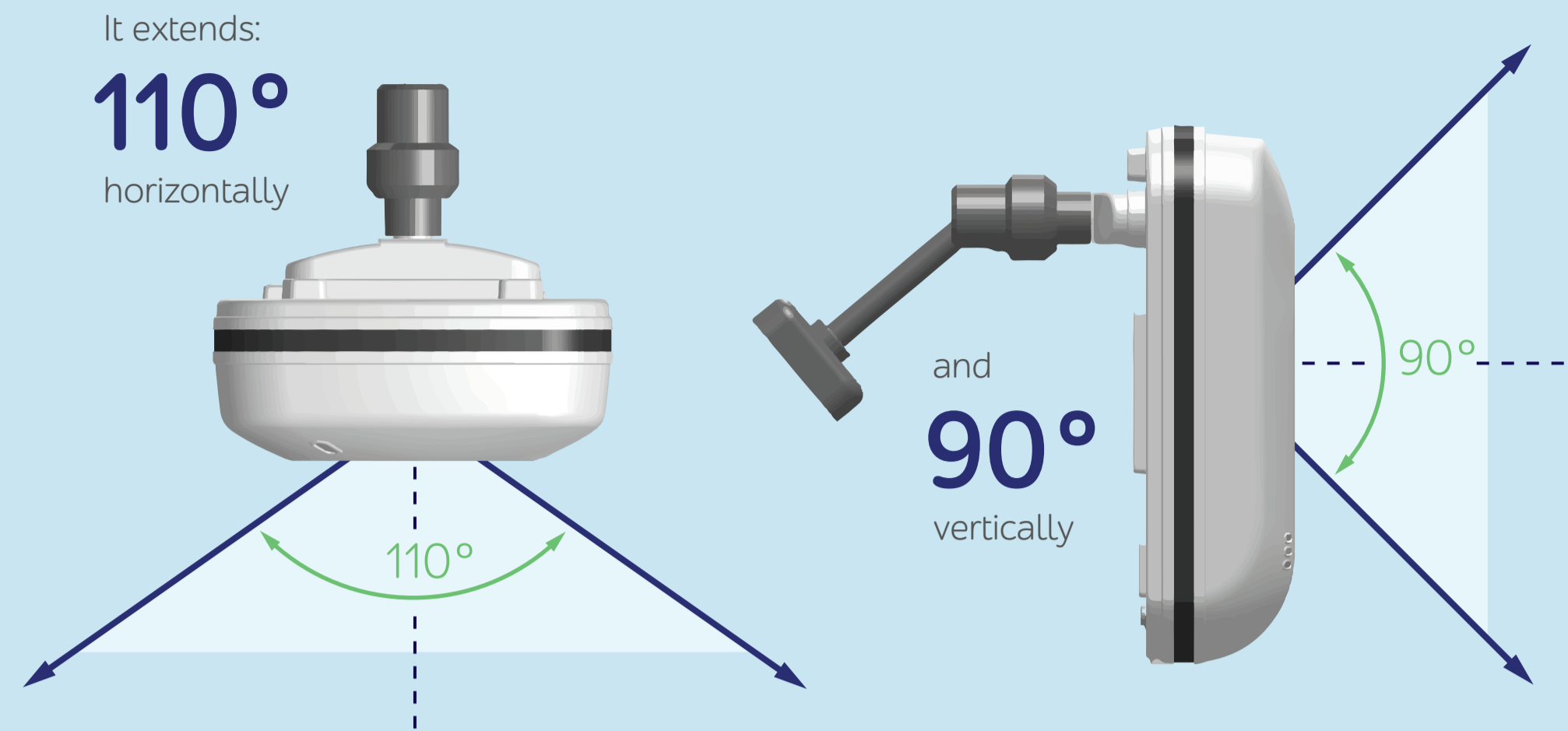


Understanding Sensor Coverage

A single Ubisense sensor can spot tags up to 100m away in clear line-of-sight and location coverage can be generated by nearly any sensible arrangement of sensors. But by understanding where a single sensor can detect tags, and how sensors work together to generate locations, you can ensure that you are getting the most out of your Ubisense Real Time Location System.

There are three things you need to know about Ubisense sensor coverage.

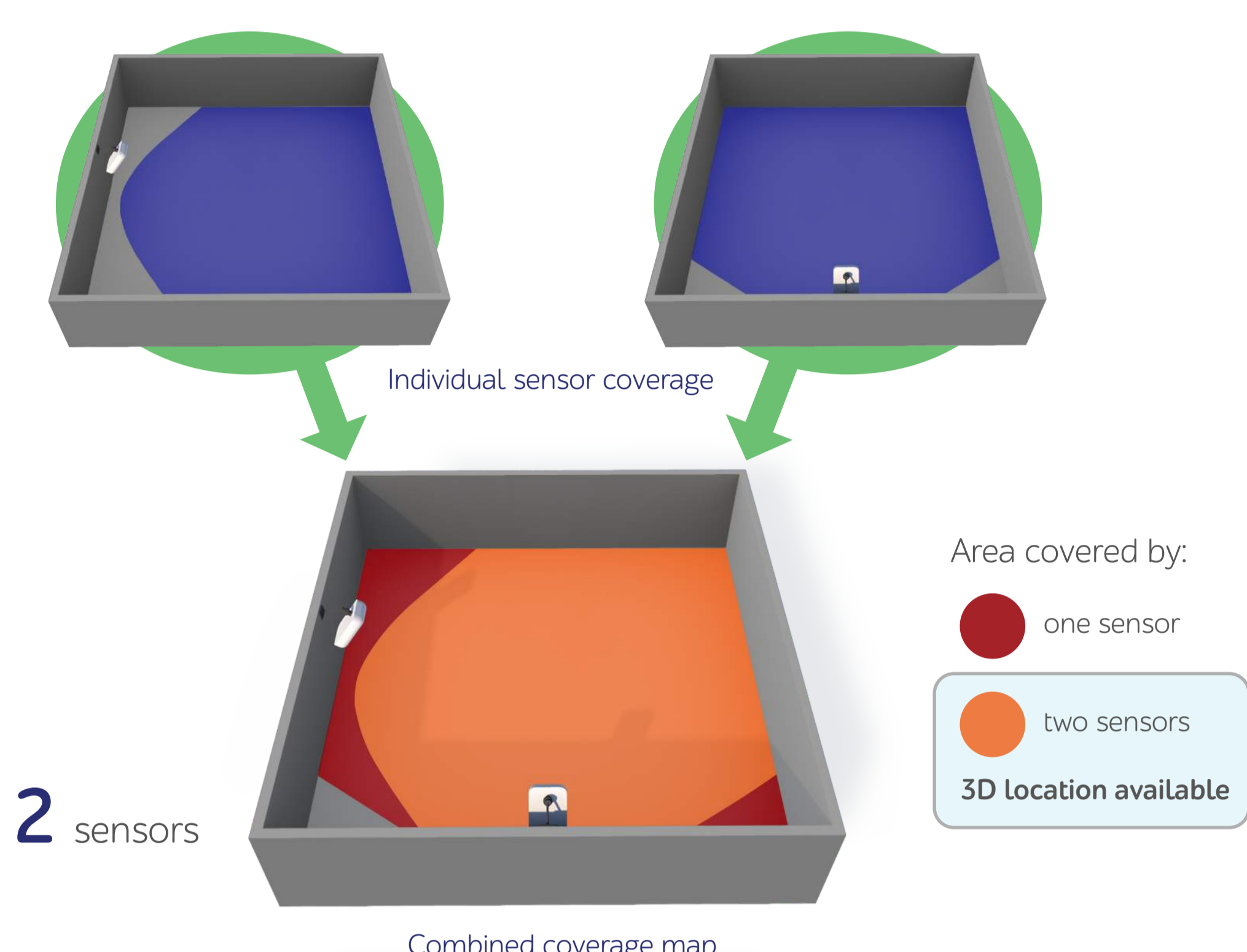
1 Sensors have a cone of optimum coverage.



A sensor's antenna is tuned to deliver the most accurate tag sightings in this zone. Although a sensor may detect tags outside of this region, you should always mount sensors such that areas of interest are contained within the cone of optimum coverage. This will ensure that your Ubisense system is as accurate as possible.

2 To generate a 3D location, tags must be seen by at least two sensors.

Even with two sensors 3D location coverage is obtained in the most areas of an empty room.



Ubisense sensors measure both the Angle-of-Arrival (AoA) and Time-Difference-of-Arrival (TDoA) of tag signals. This enables the system to generate accurate 3D locations even when only two sensors have a tag sighting. However, adding extra sensors will increase the accuracy of calculated locations and fill in any coverage gaps.

Adding a third sensor boosts location accuracy and extends the areas of 3D location coverage.

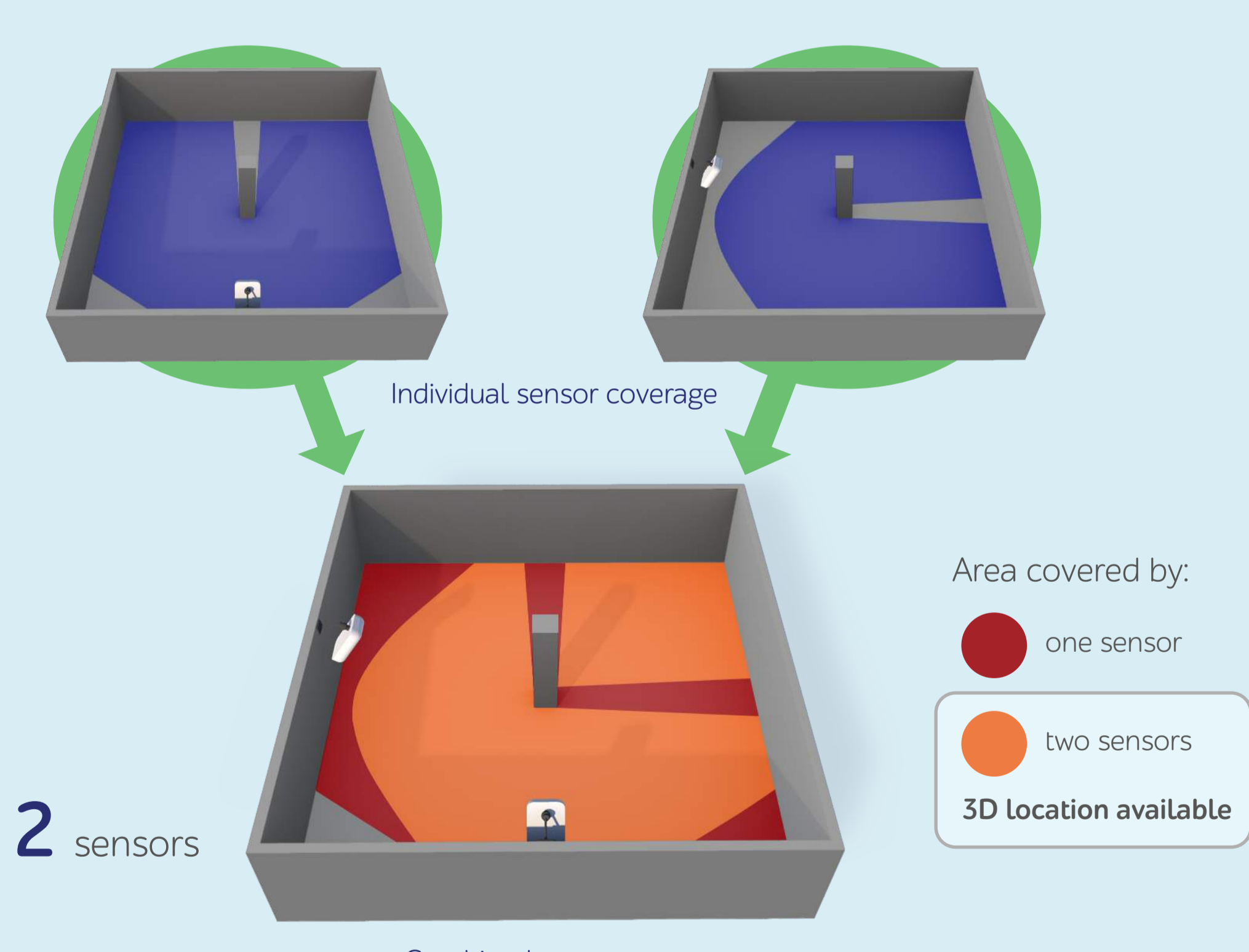


A fourth gives further accuracy improvements and full 3D location coverage.



3 Objects blocking sensors create significant gaps in coverage.

Large objects made of RF blocking materials, like metal or reinforced concrete, reflect and absorb the signals used to locate tags. This means that, with a limited number of sensors, gaps in coverage can start to appear. These gaps can be filled in by carefully considering where the blocking objects are, and placing extra sensors to cover the blocked region.



Adding extra sensors gradually eliminates areas with no coverage and improves accuracy for well-covered areas.

